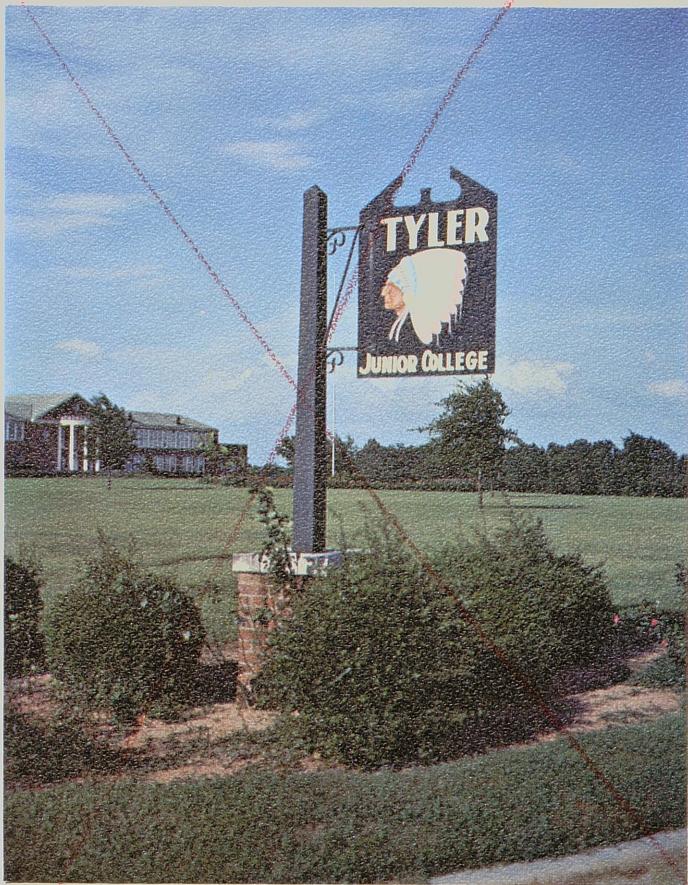


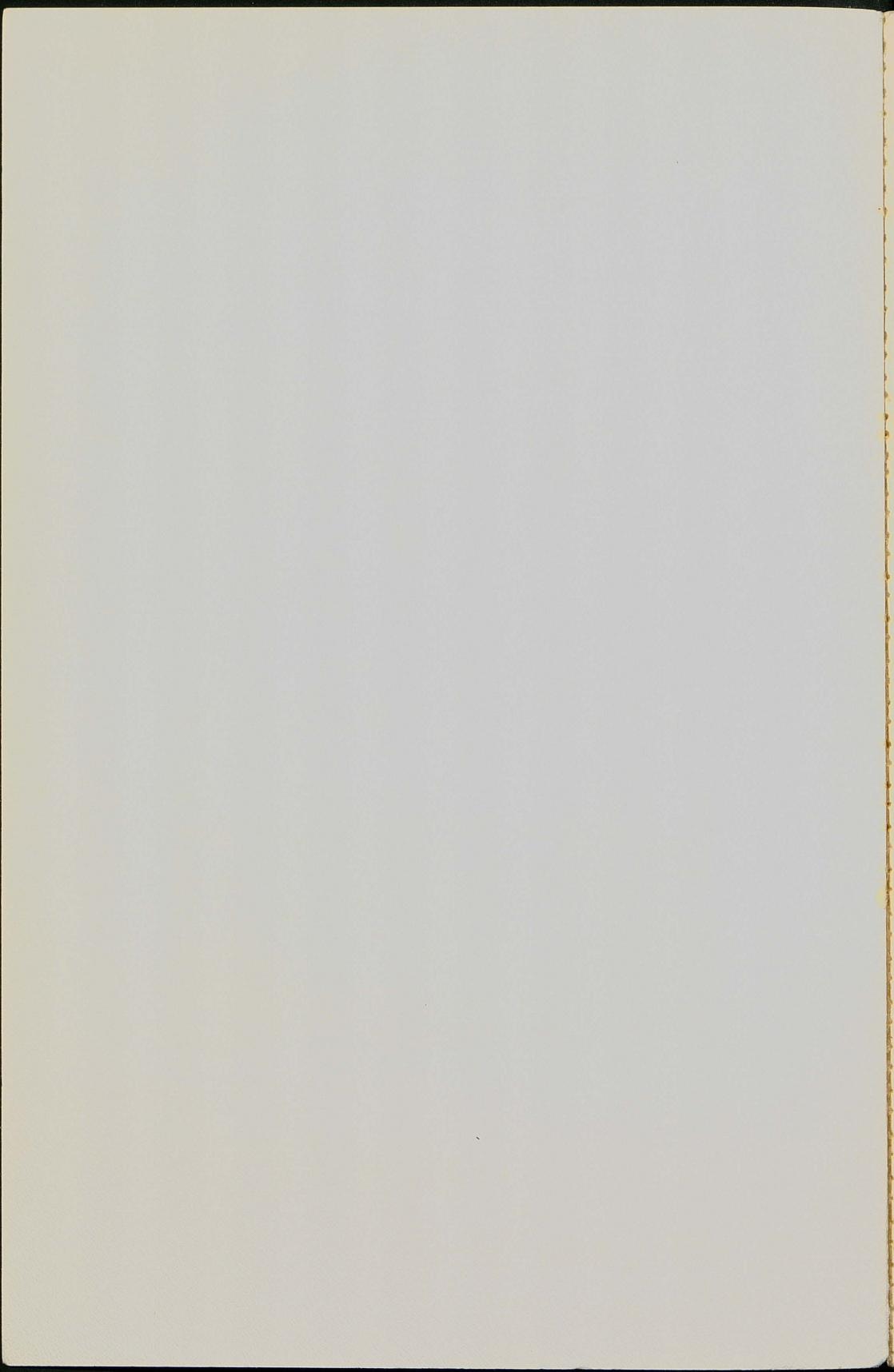
# TYLER JUNIOR COLLEGE

TYLER, TEXAS



ANNUAL CATALOGUE 1970-1971

ANNOUNCEMENT OF COURSES 1971-1972



TYLER  
JUNIOR  
COLLEGE

EAST FIFTH STREET

+

ANNUAL CATALOGUE

1970-1971

+

TYLER, TEXAS

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## GENERAL COLLEGE CALENDAR — 1970 - 1971

### ADVANCE REGISTRATION

The administrative offices are open throughout the summer for advance registration. Thorough and leisurely counseling is available on degree plans, technical courses and vocations. Students may arrange appointments from 8 a.m. until 3 p.m. Mondays through Fridays.

#### FALL SEMESTER

	<b>1970</b>
Pre-Registration	June 8 - August 21
Evening School Registration	August 20 and 21
General Faculty Meetings	August 22 and 24
Day School Registration	August 25, 26, 27
Last day to register without paying late fee	August 27
First day of classes	August 31
Last day to change schedule	September 4
Labor Day - Holiday	September 7
Twelfth Class Day	September 16
Last day to drop a course with a grade of X	October 23
Mid-semester grades due	October 23
Pre-registration for spring semester	October 26
Thanksgiving holidays	November 26 and 27
Beginning of final exams	December 16
Last day of Fall semester	December 22

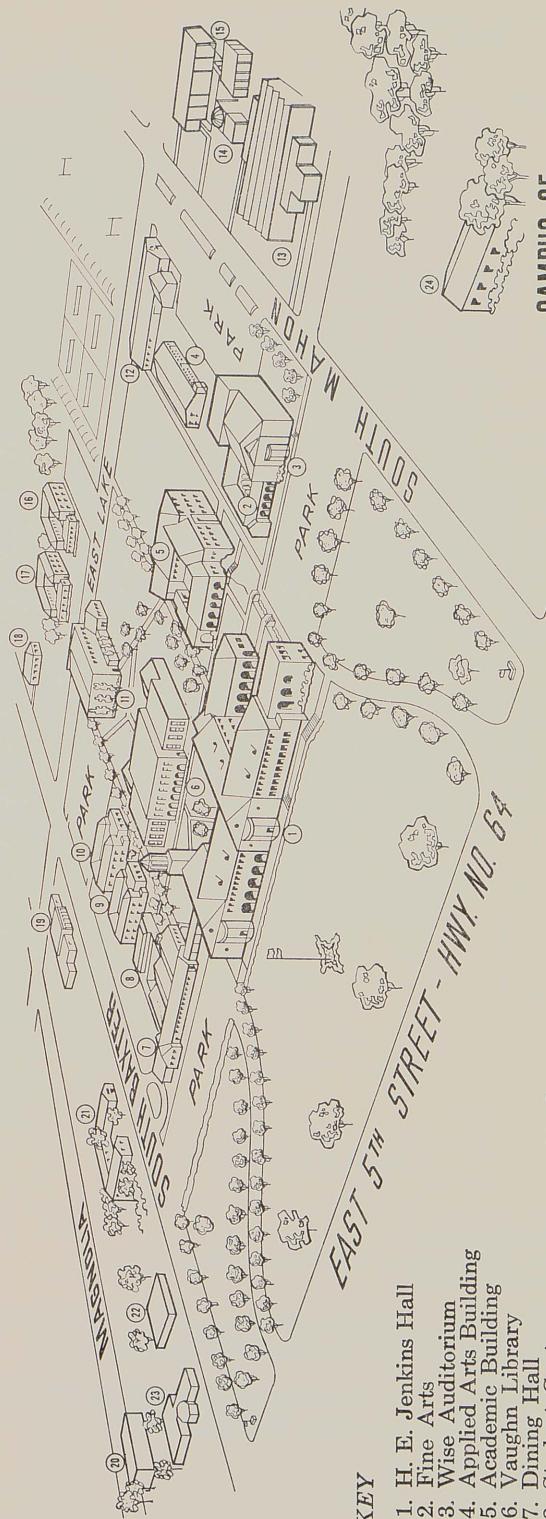
#### SPRING SEMESTER

	<b>1971</b>
Evening School Registration	January 7 and 8
General Faculty meeting	January 11
Day School Registration	January 12, 13, 14
Last day to register without paying late fee	January 14
First day of classes	January 18
Last day to change schedules	January 22
Twelfth Class Day	February 2
Last day to drop a course with a grade of X	March 8
Mid-semester grades due	March 8
Spring holidays (inclusive)	April 5-12
Beginning of final exams	May 12
Last day of spring semester	May 21
Commencement	May 21

#### SUMMER SESSION

	<b>1971</b>
Registration for First Term	May 31
Classes Begin	June 1
First Term Ends	July 9
Registration for Second Term	July 12
Classes Begin	July 13
Second Term Ends	August 20

# CAMPUS OF TYLER JUNIOR COLLEGE



## Board of Trustees

Dr. Jim M. Vaughn.....	President	
Ira Hildebrand.....	First Vice-President	
George Pirtle.....	Second Vice-President	
Ava Lea Gentry.....	Secretary	
Earl C. Andrews.....	Cecil Bagwell.....	A. D. Clark, Jr.
Homer Eikner.....	.....	Harry Loftis
Hubert Tunnell.....	B. D. White.....	Watson W. Wise

\* \* \* \*

## The Administrative Council

Harry E. Jenkins, Ph.D.....	President
Edward M. Potter, M.A., L.L.D.....	Vice-President, General and Academic
R. H. Barrett, M.B.A.....	Vice-President, General and Fiscal
Ava Lea Gentry, A.A.....	Administrative Assistant
I. L. Friedman, B.S.....	Dean of Instruction
Edwin Fowler, M.Ed.....	Dean of Men
Eva Saunders, M.A.....	Dean of Women
Edwin Brogdon, M.B.A.....	Dean of the Evening Division
Kenneth Lewis, M.S.....	Registrar

\* \* \* \*

## FACULTY

Harry E. Jenkins.....	President
B.S., Kansas State College; M.A., The University of Missouri; Ph.D., The University of Texas	
Edward M. Potter.....	Vice-President, Academic and General
B.A., M.A., The University of Texas; LL.D., East Texas Baptist College	
Richard Barrett.....	Vice-President, Fiscal and General
B.B.A., East Texas State University; M.B.A., Texas A&M University	

## FACULTY (Continued)

Johnny Abbey .....	Business
B.B.A., M.B.A., The University of Texas	
Andres R. Acosta.....	Spanish, French
Ph.D., The University of Havana, Cuba	
Jacqueline Adams .....	Art
B.A., Centenary College; M.A., Stephen F. Austin State University	
Thomas W. Akins.....	English
B.A., Texas A&M University; M.A., Southern Methodist University	
Bill N. Allan.....	Bible
Director, Church of Christ Bible Chair	
B.S., Abilene Christian College; M.Ed., California State Polytechnic	
Donald Anderson.....	Bible
B.A., Northwestern Schools; M.T., Dallas Theological Seminary	
Billy Wayne Andrews .....	Physical Education—Football Coach
B.A., Trinity University	
Albert Baade.....	Electronic Data Processing
B.A., Baylor University	
Ray Bagwell.....	Government
B.A., Baylor University; M.Ed., East Texas State University	
Robert Ballard.....	Government, History
B.A., Culver-Stockton College; M.S., East Texas State University	
James F. Barnes.....	Government, Economics
B.A., Mississippi College; M.A., The University of Mississippi	
Lethan A. Barnes.....	English
B.S., M.A., Texas A&M University	
Richard C. Barnett.....	Air Conditioning
B.S., Southern Methodist University	
Wanda Barton .....	Spanish
B.A., M.A., Stephen F. Austin State University	
Barbara Bassett.....	Business Education
B.S., Louisiana Polytechnic Institute;	
M.Ed., Northeast Louisiana State College	
Harvey O. Beckendorf.....	Bible
Director, Methodist Bible Chair	
B.S., The University of Houston; B.D., Perkins School of Theology	
Charles D. Bennett.....	Business Education
B.S., Southeastern State College, Okla.; M.S., Oklahoma State University	
J. L. Bergfeld, Jr.....	Real Estate
B.A., The University of Texas	

## FACULTY (Continued)

Richard Berkhouse	Air Conditioning
B.S., The University of Pittsburgh	
Jack W. Betts	Engineering Drawing, Drafting
B.S., M.Ed., East Texas State University	
Sue Betts	Library Assistant
B.S., M.Ed., East Texas State University	
Lawrence Birdsong, Jr.	Speech, Drama
B.A., Baylor University; M.A., East Texas State University	
Gene Blakely	Business Manager
B.B.A., North Texas State University	
Ray Blankenship	Sociology, Psychology
B.S., East Texas Baptist College; M.A., Stephen F. Austin State University	
Justus Bonn	Voice
Opera School of Amsterdam Conservatory	
Howard E. Branum	Physics
B.S., M.Ed., Stephen F. Austin State University	
Edwin S. Brogdon	Dean of the Evening Division, Distributive Education
B.B.A., M.B.A., East Texas State University	
Charles A. Brown	History
B.A., M.A., Oklahoma State University	
Jean Browne	Chairman, Department of Speech and Drama
B.A., Mt. Holyoke College; B.A., Carnegie Institute of Technology; M.F.A., The University of Texas; Ph.D., State University of Iowa	
Elizabeth Bryarly	Chairman, Department of English
B.A., Baylor University; M.A., The University of Texas	
Julius Buchanan	Petroleum Technology
B.S., The University of Texas; M.S., East Texas State University	
Paula Buck	English
B.A., Texas A&I University; M.A., Stephen F. Austin State University	
Don S. Burket	Government
B.A., M.A., Austin College	
John Maxwell Burket	Geology
B.A., M.S., Baylor University	
Mary Burton	English
B.A., M.A., Sam Houston State University	
Merrill Cantrell	Electronic Data Processing
A.A., Tyler Junior College	

## FACULTY (Continued)

David M. Castles.....	Government
B.S., M.A., Stephen F. Austin State University	
Lorace E. Catterson.....	Economics
B.S., Northwest Missouri State College; M.Ph., The University of Wisconsin	
Charles J. Cavanaugh.....	Chairman, Department of Art
B.F.A., Louisiana College; M.A., North Texas State University	
Edith Chilcote.....	Library Assistant
B.A., Southern Methodist University	
Louise Clinkscales.....	Chairman, Department of Business Education and Secretarial Training
B.B.A., Baylor University; M.B.A., East Texas State University	
Milford T. Collins.....	History
B.A., East Texas Baptist College; M.A., Stephen F. Austin State University	
Rebecca Collins.....	Psychology, Sociology
B.S., M.Ed., Stephen F. Austin State University	
Marjorie Coulter.....	Physical Education
B.S., Baker University	
Edmund R. Crisp.....	Engineering Drawing
B.S., Texas A&M University	
Felder Cullum.....	Chairman, Behavioral Science Department, Psychology
B.S., University of Maryland; M.Ed., Ed.D., North Texas State University	
Charles Danheim.....	Bible
B.S., Stephen F. Austin State University; B.D., Southern Methodist University	
Marvin P. Davis.....	Chairman, Department of Mathematics
B.S., Lamar State College of Technology; M.A., Louisiana State University	
Fred T. Debenport.....	Electronics
B.S., University of Houston	
David Demic.....	Mathematics
B.A., Texas Technological College; M.A., The University of Texas	
Joseph L. Dennis.....	History
B.A., Southern State College; M.A., Texas A&M University	
Clarence Durham.....	Engineering
B.S., Georgia School of Technology	
Billie Carol Edwards.....	Art
B.A., M.Ed., Northwestern State College; M.A., Stephen F. Austin State University	
Elmer G. Ellis.....	Business
B.S., M.B.A., East Texas State University	
Linda Ellis.....	English
B.A., M.A., East Texas State University	

## FACULTY (Continued)

Lena Exum	English
	B.A., Mississippi State College for Women; M.A., University of New Mexico
Sara Bess Faulk	Library Assistant
Diana Ferguson	Nursing
	R.N., B.S., Texas Women's University
Kamill Fogarasi	German
	B.A., M.A., Wayne State University, Michigan
Edwin Fowler	Dean of Men; Band
	B.A., Baylor University; M.Ed., East Texas State University
Irving L. Friedman	Dean of Instruction
	B.S., East Texas State University
A. C. Gentry	Art
	B.A., The University of Texas
Ava Lea Gentry	Administrative Assistant to the President
	A.A., Tyler Junior College
Alfred Gilliam	Choreographer
Robert Glover	History, Government
	B.A., M.A., Stephen F. Austin State University
Lorie Kay Gollotte	Business
	B.S., M.Ed., University of Southern Mississippi
Cecil Greer	History, Government
	B.A., University of Miami; M.A., University of Georgia
Forest Griffin	Chairman, Department of Technology; Drafting
	B.S., M.S., East Texas State University
Peggy Hall	Dental Hygiene
Thurman Dale Hamman	Business
	B.A., M.S., East Texas State University
Elinor R. Hanes	Spanish, French
	A.B., Augustana College, Ill.; A.M., Oberlin College
Larue Hardee	Nursing
	R.N., B.S., University of Wyoming; M.S., East Texas State University
Raymond M. Hawkins	Government
	B.A., The University of Texas; M.A., Stephen F. Austin State University
James Alan Haynes	Business
	B.B.A., The University of Texas
John Head	Biology
	B.A., East Texas State University; M.A., Sam Houston State University
Royce Ann Heard	Mathematics
	B.A., Baylor University; M.A., Sam Houston State University

## FACULTY (Continued)

Claire Heaton.....	Library Assistant
B.A., Stephen F. Austin State University	
Richard Heitzman.....	Speed Reading
B.C.H.E., University of Florida	
Ernest E. Hendrix, Jr.....	Surveying
B.S., Texas A&M University	
Milton W. Higgins.....	Business
B.S., Southwestern State; M.Ed., University of Oklahoma; Ed.D., University of Oklahoma	
James H. Hill.....	Chemistry
B.S., Lamar State College of Technology; M.S., University of Arizona	
Wayne Hill.....	Physical Education, Assistant Football Coach
B.S., M.Ed., Sam Houston State University	
Loretta Holbrook.....	English
B.S., M.A., Stephen F. Austin State University	
Iva Jenkins.....	Library Assistant
Wiley W. Jenkins.....	History, Government, and Chairman Department of Social Science
B.S., The University of Mississippi; Ph.D., The University of Texas	
J. W. Johnson.....	Music
B.M., M.M., North Texas State University	
Thomas Jerry Joyner.....	Mathematics
B.S., Mississippi College; M.A., University of South Carolina	
Elton Wayne Keith.....	History
B.A., M.A., Baylor University; M.A., Peabody College	
Johnnye Kennedy.....	Assistant Librarian
B.A., M.L.S., Texas Women's University	
Hugh A. Kenner.....	Business
B.B.A., M.B.A., East Texas State University	
Joseph Kirshbaum.....	Chairman, Department of Music
Mus.B., Mus.M., Yale University	
Willie Lankford.....	English
B.A., Texas Women's University; M.A., Stephen F. Austin State University	
Jerry Leard.....	Vocational Counselor
B.M., Stephen F. Austin State University; M.Ed., The University of Texas	
James A. Leddon, Jr.....	History
B.S., University of Maryland; M.A., University of Texas at El Paso	
James N. Lewis.....	Government, Economics
B.S., M.A., North Texas State University	

## FACULTY (Continued)

Kenneth D. Lewis.....	Registrar
B.S., Texas A&M University; M.S., East Texas State University	
David J. Ligon.....	Government, History
B.S., Portland State College; M.S., Eastern New Mexico University	
Eugene B. Long.....	Counselor
A.B., Wiley College; M.A., University of Michigan	
Jefferson H. Martin.....	Mathematics
B.S.E., Southern State College; M.A., University of Arkansas	
Verna Martin.....	Assistant Librarian
B.A., Texas Women's University	
Merry McBryde.....	Nursing
R.N., B.S., University of Texas	
Eugene McClenny.....	Business
B.S., East Texas State University	
Loretta McGehee.....	English
B.A., Southern Methodist University; M.A., East Texas State University	
Evelyn McManus.....	Librarian
B.A., Southwestern University; M.S., East Texas State University	
H. F. Mills.....	History, English
B.A., M.A., Rice University	
Randall Milstead.....	Physical Education
B.A., M.Ed., Stephen F. Austin State University	
Richard T. Minter.....	Drafting
B.S., M.Ed., Sam Houston State University	
Don Mize.....	Bible
Director, Baptist Bible Chair	
B.A., Baylor University; M.D., Southwestern Baptist Theological Seminary	
Ardon Moore, Jr.....	Law Enforcement
B.S., L.L.B., University of Houston	
James Richard Morgan.....	Speech
B.F.A., Southern Methodist University; M.S., East Texas State University	
George Mueller.....	Piano
B.M., M.M., American Conservatory of Music	
June Murphy.....	Nursing
R.N., B.S., Texas Christian University	
James Murray, Jr.....	English
B.A., Baylor University; M.A., The University of Texas	
Monty Lee Newman.....	Drafting
B.S., M.Ed., East Texas State University	

## FACULTY (Continued)

Ed Nitsche	Business
B.A., Southern Methodist University	
Margie Noel	History
B.A., Austin College; M.A., Tulane University	
Willie Lee Palmore	Biology Laboratory
B.S., North Texas State University	
Ronald Patschke	Mathematics
B.S., M.A., Southwest Texas State College	
Adrian J. Pddy	Geology
B.S., Texas Technological College; M.S., East Texas State University	
Mary W. Pddy	Business
B.S., Mississippi State College for Women; M.Ed., Mississippi State University	
Beverly Perkins	English
B.A., Texas Technological College; M.S., East Texas State University	
Robert K. Peters	History
B.A., Texas Christian University; M.A., Stephen F. Austin State University	
Beverly Phillips	Journalism Laboratory
B.A., East Texas State University	
Lillian B. Pipkin	Electronic Data Processing
Phil Point	Music
B.M., M.M., The University of Texas	
Lloyd Powers	Speech
B.A., M.A., The University of Oklahoma	
Blanche Prejean	English, Journalism
B.A., Texas Wesleyan College; M.A., Stephen F. Austin State University; Ph.D., The University of Texas	
Esten Ray	Police Training
B.S., Stephen F. Austin State University	
Herbert L. Richardson	Counselor
B.S., M.Ed., University of Houston	
Joan Richardson	Business
B.S., The University of Houston	
Judith R. Robertson	Counselor
B.S., M.Ed., North Texas State University	
Sue Robinson	Art
A.B., Marietta College	
Thomas G. Robinson	Social Science
B.A., M.A., The University of Oklahoma	
Earl F. Rucker	Agriculture
B.S., M.Ed., East Texas State University	
Leo Rudd	Education-Psychology
B.A., William Jewell College; M.S., East Texas State University	

## FACULTY (Continued)

John T. Saleh, Jr.	Business Administration
B.B.A., East Texas State University; M.B.A., North Texas State University	
Martin Z. Sammons, Jr.	Business
L.L.B., Baylor University	
I. C. Sanders	Laboratory Instructor
B.A., Rice University; M.A., The University of Texas	
Eva Saunders	Dean of Women
A.B., Baylor University; M.A., The University of Texas	
William J. Schange	Business
B.S., M.S., East Texas State University	
Ruby Scroggin	English
B.S., M.S., East Texas State University	
Robert V. Scudder	Dial Access Engineer
Jacquelyn Shackelford	Speech
B.S., M.S., East Texas State University	
Thomas Simmons	Biology
B.S., M.S., Mississippi State University	
Sylvia Sleighsinger	French
B.A., Baylor University; M.A., Louisiana State University	
Ann Smith	Accounting
B.B.A., M.B.A., The University of Texas	
Walter S. Smith	Radio-Television
FCC Licensed Radio-Television Engineer	
Sammie M. Smyrl	Mathematics
B.A., East Texas State University; M.A., The University of Texas	
Mahlon Soileau	French, and Chairman Department
B.A., M.A., University of Southwestern Louisiana; of Foreign Languages	
French Language Certificate, University of Paris	
Charles Sowders	Drafting and Advertising Arts
B.S., Sul Ross State College	
Neville Spiers	Physical Education, Assistant Football Coach
B.S., North Texas State University	
Etta Spivey	Business
B.S., Mary Washington College	
Katie A. Stewart	English
B.S., Prairie View State College; M.A., Atlanta University	
George Stiles	Biological Science, and Chairman
B.S., Sam Houston State University;	
M.A., Colorado State College of Education	of Department of Science
Clarence Strickland	Speech
B.S., M.S., East Texas State University	
Lorene Strickland	English
B.A., M.A., Stephen F. Austin State University	

## FACULTY (Continued)

Hubert L. Stripling.....	Biology
B.S., Louisiana Polytechnic Institute; M.S., Florida State University	
Margaret G. Taylor.....	Nursing
B.S., Ball State University; R.N.	
George B. Tefteller.....	Mathematics
B.S., M.S., East Texas State University	
William L. Thomas.....	Mid-Management
B.S., East Texas State University	
June Thompson.....	English
B.S., M.A., Stephen F. Austin State University	
Patsy Tiller.....	Nursing
R.N., B.S., Baylor University	
Thomas Tooker.....	Director of Counseling and Guidance
A.B., University of Wichita; M.Ed., Texas A&M University	
Walter Untersee.....	Aviation
Licensed Pilot	
Floyd Wagstaff.....	Director of Physical Education and Athletics
Basketball Coach	
B.S., Stephen F. Austin State University; M.A., North Texas State University	
Mary Frances Waldrop.....	English
B.A., M.A., Austin College	
Julia Warren.....	Assistant Librarian
A.B., Wiley College; M.S., North Carolina College at Durham	
Patricia Warren.....	Art
B.A., University of Texas	
John Richard Wheat.....	Mathematics
B.A., Stephen F. Austin State University; M.S., University of Mississippi	
James David Wicks.....	Chemistry
B.S., M.A., Southwest Texas State College	
Fred A. Wright, Jr.....	Mathematics
B.S., Florida Southern College; M.A., Duke University	
Gladys Wylie.....	English
B.A., Rice University; M.A., Stephen F. Austin State University	
Jimmy D. Yancy.....	English
B.A., M.A., Stephen F. Austin State University	
Myra York.....	Audio-Visual Aids Coordinator
Radiance Young.....	English
B.S., Sam Houston State University; M.A., George Peabody College	
Vivian Young.....	Nurse
R.N.	

## THE HISTORY AND DEVELOPMENT OF TYLER JUNIOR COLLEGE

The original Tyler Junior College was established in 1926 as a part of the Tyler Public School System. It operated under this plan with a small enrollment until September 1, 1946.

On November 13, 1945, the voters established a new, independent Tyler Junior College District, authorized a tax levy for the support of the college, and authorized a bond issue for the erection of a new college plant on its own campus, separating it from the public school system on September 1, 1946.

Since then the Tyler Junior College District has been enlarged and extended by ten neighboring school districts which voted to become a part of the College District for junior college purposes only. The present Tyler Junior College District is now composed of the following districts:

- The Tyler Independent School District.
- The Winona Consolidated Rural High School District No. 67.
- The Chapel Hill Independent School District.
- The Lindale Independent School District.
- The Rice Consolidated Common School District No. 13.
- The Dixie Rural High School District No. 5.
- The Swan Consolidated Common School District No. 60.
- The Pine Springs Common School District No. 48.
- Flint Common School District No. 18.
- Van Independent School District.
- Grand Saline Independent School District.

The College is operated under statutory authority by its Board of Trustees, composed of eleven members.

Students residing in the Tyler Junior College District are entitled to priority in enrollment. Others are admitted if facilities are available, but the College reserves the right to limit the enrollment of students residing outside the Tyler Junior College District whenever in its judgment facilities are not available for additional students.

## GENERAL INFORMATION

### STATEMENT OF PURPOSE

Tyler Junior College recognizes the responsibility to offer educational opportunities at minimal cost to students varying in interests, aptitudes, talents, needs and goals. Specific objectives include the following:

**Educational:** To provide two years of fully transferable college credit courses designed to develop logical, creative, and objective thinking, and to stimulate intellectual curiosity by exposing students to the various academic disciplines;

To provide two-year technical programs in order to prepare students to gain occupational competency as technical personnel in industry, business, government, or as owner-operators of their own establishments;

To provide programs of vocational education for employed adults who need additional training or re-training in order to increase occupational competency.

**Cultural:** To cultivate the knowledge and appreciation of human achievements in the arts and sciences by providing convocations, by offering elective and adult education courses that stimulate interest in the arts, and by encouraging students to participate in cultural activities.

**Social:** To encourage the exercise of friendliness and other social virtues by providing opportunities for students to gather at conveniently located student lounges and by offering a well-planned, diversified program of extra-curricular activities, planned and implemented by both the student body and the faculty.

**Civic:** To encourage effective student government in order to create in each student an intelligent interest in the governmental processes, and to prepare him for responsible citizenship. The community is also encouraged to use the facilities of the college.

**Physical:** To provide programs of physical development and of competitive sports in order to encourage good habits of physical and mental health, and to stimulate interest in recreation and good sportsmanship.

**ACCREDITING.** The Tyler Junior College is a member of the Association of Colleges and Secondary Schools for the Southern States, the Texas Association of Colleges and Universities, and the Texas Association of Music Schools.

Membership in these accrediting associations makes possible the transfer of credit for work done in Tyler Junior College to other colleges and universities.

Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

**ADMISSION.** Registration for the fall semester begins in June and continues daily throughout the summer. By this system the student is assured of thorough and leisurely counseling on degree plans and personal problems.

Students will avoid delay in registering by sending a transcript of credits from the high school or college last attended.

1. Admission by Graduation from High School.

Graduation from a standard high school with at least fifteen units of high school credit, including three units in English, is required. The elective units must be chosen from the list approved by the Texas Education Agency.

2. Admission by Examination.

Mature students who are not graduates of a high school may absolve the deficiency by taking examinations.

3. Admission of Transfer Students.

Students may be accepted on transfer from other regionally accredited colleges and universities when eligible to return to their former institutions.

A student seeking to transfer to Tyler Junior College must:

a. Present a complete transcript, bearing impress of seal and signature of college official. The document should include the previous admission record and evidence of honorable dismissal.

b. Continue on scholastic probation at Tyler Junior College if he has been placed on probation at another institution.

c. Not seek to be admitted to Tyler Junior College if he is on enforced scholastic withdrawal from another institution. Residents of the Tyler Junior College District may

apply to the Academic Vice-President for special consideration.

Transfer students will have credit recognition to a maximum of forty-five semester hours toward an appropriate Tyler Junior College degree on work averaging one grade point per semester hour on a three point system.

Such students may earn an appropriate Tyler Junior College degree by doing the last fifteen semester hours or more in Tyler Junior College with a C average.

A student transferring from another collegiate institution is not at liberty to disregard his collegiate record and apply for admission on the basis of his high school record or a part of his college record.

#### 4. Special Admission.

A limited number of special adult students are admitted to evening classes upon individual approval.

#### 5. The American College Testing Program Admission Requirement.

All regular beginning freshmen students (including those with up to 15 semester hours) must submit scores of the American College Testing Program. No other scores are acceptable in substitution. The scores are used for counseling and placement purposes.

It is the student's responsibility to see that these scores are reported to the Registrar well in advance of actual enrollment. Students who were not able to take the tests, however, may do so after arrival on the campus.

The American College Testing Program tests are scheduled for October 17, 1970; December 12, 1970; February 20, 1971; April 24, 1971 and July 17, 1971; at Tyler Junior College and other conveniently located centers in Texas and elsewhere. A list of them will be found in the student Information Bulletin of the American College Testing Program testing service. Such information booklets and registration forms may be obtained from high school or college counselors or Registrars.

Transfer students with less than fifteen semester hours of credit must submit the American College Testing Program scores.

## Registration and Withdrawal Regulations

**Responsibility for Admission Requirements.** The student himself is responsible for meeting all admission requirements including furnishing the necessary transcripts of his work. His failure to meet all requirements within a reasonable period of time after registration may cause him to be placed on non-credit status in all work for which he has been enrolled.

**Late Registration.** Students should register at the scheduled times in order to have the widest choice of courses and to make the registration procedure more uniform. With approval of the Academic Vice-President or the Director of the Evening Division, a student may be permitted to enroll after the scheduled period, but a late registration fee of \$7.50 will be charged.

**Adding and Dropping Courses.** After the beginning of classes, adding or changing of courses will be approved only for the most pressing of reasons such as change of degree plan, conflict of classes, etc. The final date for such changes is the last day of the first week of classes. Application for such changes is made in the Registrar's office.

**Quantity of Work Rule.** The standard amount of credit work for each student in the regular session is fifteen or sixteen hours a semester exclusive of physical activity courses.

The standard amount of credit work for each student in the summer session is six hours a summer term.

**Withdrawals.** A student desiring to withdraw from school must submit a withdrawal petition to the Registrar's Office.

**Attendance.** Regular class attendance is fundamental for the success of the student; therefore, a student must report promptly and regularly to all classes. Excessive absence is cause for dropping the student from the rolls.

**Guidance and Counseling.** The college offers an extensive program in testing, guidance and counseling, under the supervision of the Director of Guidance and Counseling.

**Academic Probation.** Students failing to make minimal normal progress in their scholastic programs will be placed on probation the following semester. Failure to remove the classification may call for academic suspension. Minimal progress is defined as follows:

A regular student must earn nine semester hours and nine grade points per semester on the three point system during his first two semesters or until sophomore standing is achieved. Following this the student must earn twelve semester hours and twelve grade points per semester. The student carrying less than four courses must pass all work with a grade point average of one.

Students placed upon academic suspension may routinely apply for readmission after remaining out at least one semester. Such students suspended at the end of the spring semester may be granted readmission in good standing the following fall semester, provided they have done at least twelve semester hours with a C average in the intervening summer term.

Students suspended for scholastic reasons may appeal their suspension to a special Admissions Committee composed of the Academic Vice-President, the Dean of Instruction, and a member of the counseling staff.

Extended probationary standing may be granted when the Committee is convinced that extenuating circumstances have been present.

**Grades and Reports.** Students or parents receive grade reports every nine weeks. The standing of the student in each course is determined by his class performance and by regular examinations. Two hours is considered a reasonable amount of time for average students to spend in preparation for each hour of class work.

Students' grades may be interpreted as follows:

A Excellent	X Official drop while passing
B Good	XF Official drop while failing
C Average	Q Unofficial drop
D Poor	W Official withdrawal from college while passing
E Conditional*	WF Official withdrawal from college while failing
F Failure	
I Incomplete**	

\* A student making E will be permitted to remove the condition by a second examination within a semester.

\*\* An incomplete must be made up within the following semester. After this time it is changed to F.

**Numbering of Courses.** One semester hour represents one class hour per week for four and a half months; for example, one

course meeting three hours a week for nine months carries credit of six semester hours.

Courses are numbered as follows (except in nursing): The first digit of the number indicates the college year in which the course is taken; the second digit in the number indicates the semester of the year in which the course is taken; the final digit indicates the credit value of the course in semester hours; thus, English 123 indicates that the course is the first year, second semester English with a credit value of three semester hours. The addition of a lower case letter indicates that the course is taught in two or more divisions.

In the case of courses offered only in the summer the number 3 as the middle digit indicates the first summer term. The number 4 indicates the second term. The course number 143 therefore indicates a freshman level subject normally taught in the second summer term for three hours credit.

All descriptive titles of courses are followed by two numbers in parenthesis. The first of these numbers gives the number of class meetings each week while the second number gives the number of hours of laboratory each week. For example, the notation (3-2) indicates that a course has three class meetings and two hours of laboratory weekly.

**Transfer to Other Institutions.** Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

**Student Load.** Except by special permission from the Academic Vice President, a student will not be permitted to register for fewer than four or more than five courses.

## Graduation, Degrees and Certificates

The college awards the Associate degree in the fields of liberal arts, applied arts, business administration, engineering, and science to those who complete the requirements as set forth for the particular degree desired and who make proper application to the Registrar for that degree. A diploma is awarded on successful completion of the two-year programs in Electronics and Electronic Data Processing.

For graduation transfer students must maintain a C average on all work attempted at Tyler Junior College.

For graduation the last fifteen semester hours must be completed in Tyler Junior College.

Students who graduate are required to attend the commencement exercises unless excused.

**Associate in Arts Degree.** Students who complete specified liberal arts or pre-professional requirements for graduation receive the Associate in Arts Degree. Students must complete sixty semester hours of work (exclusive of physical training and Psychology III) with an average grade of at least C.

The sixty semester hours should include twelve hours in English, six in United States History, six in government, and at least fifteen hours of sophomore rank; however, the degree will be granted to any student completing any required sixty hours of a baccalaureate degree plan, provided Government 213-223, English 113-123, United States History 213-223, and the required physical training, are included and the general average is at least C.

**Associate in Business Administration Degree.** The degree of Associate in Business Administration is conferred upon students who complete a minimum of sixty semester hours (exclusive of physical training and Psychology III) combining liberal arts with a concentration of secretarial, business administration or Electronic Data Processing courses, provided a minimum of a "C" average is maintained and six hours each are completed in English, United States History and Government.

**Associate in Applied Arts Degree.** The degree of Associate in Applied Arts is conferred upon students who complete the minimum of sixty semester hours (exclusive of physical training and Psychology III) combining liberal arts with a concentration of technical illustration courses, as programmed in this catalogue. A minimum of a "C" average must be maintained and six hours each must be completed in American History, Government and English.

**Associate in Applied Engineering Degree.** The degree of Associate in Applied Engineering is conferred upon students who complete, with a minimum of "C" average, technological programs in Electronics, Air Conditioning and Refrigeration, Drafting, Petroleum Technology or Surveying as prescribed on pages 102 to 117 in this catalogue.

**Associate in Science Degree.** The degree of Associate in Science is conferred upon students who complete the minimum of sixty

required hours (exclusive of physical training and Psychology III), combining liberal arts with Nursing, Dental Hygiene or Law Enforcement courses. An average of at least C must be attained. Government 213-223, six hours of United States History and six hours of English must be completed. One year of physical training is required.

**Diploma Programs.** Diplomas are granted to those who complete the required courses in the fields of Electronics and Electronic Data Processing as outlined on Pages 109-111 of this catalogue.

**Proficiency Certificates.** Students who satisfactorily complete certain courses of a vocational nature or those who satisfactorily complete technological courses without taking liberal arts courses for a degree are awarded certificates of proficiency.

**Physical Education Requirements.** Participation in physical education activity is required of all freshmen in Tyler Junior College. However, most degree plans require two years of such courses and most students elect to meet this requirement in Tyler Junior College.

Substitution of participation in the Apache Band or Belles or intercollegiate athletic squad training during the season of the sport is allowed.

**Psychology 111 Requirement.** All beginning freshmen are required to enroll in and attend the college orientation course Psychology 111.

## Buildings and Facilities

The Tyler Junior College occupies a 76-acre campus upon which fourteen modern buildings, primarily of colonial architecture, have been erected.

**H. E. Jenkins Hall.** Many of the academic classes are held in this building and in it also are located the business offices, laboratories, and various special rooms.

**The Academic Building.** This modern building includes offices, classrooms, laboratories and special facilities.

**The Wise Auditorium - Fine Arts Building.** This building, erected from the proceeds of a bond issue and a substantial gift from the Hon. Watson W. Wise, includes an auditorium of surpassing

beauty, in addition to special rooms for music, art, drama, and speech arts.

**The George W. Pirtle Technology Center.** These buildings include special classrooms and laboratories for instruction in advertising arts, aeronautics, air conditioning and refrigeration, dental hygiene, drafting, electronics, electronic data processing, petroleum technology, photography, surveying, and other technical courses.

**The Applied Arts Building.** This building contains the drama workshop, art classrooms, and various maintenance and utility facilities.

**The Student Center Building.** The College Bookstore, Snack Bar, student life offices, student recreational facilities, student lounges, and College Dining Hall are housed in this building.

**Gentry Gymnasium.** This is a modern gymnasium for women.

**The Men's Gymnasium.** This building provides modern facilities for a thorough program in physical fitness and for athletic activities as well as general programs. It has a seating capacity of 3000.

**The Hudnall Planetarium.** This building houses one of the largest planetariums in Texas as well as special facilities for space education.

**The Edgar H. Vaughn Memorial Library.** This learning resources center houses the Library; a complete Audio Visual Aids department with production facilities, both audio and video; and an ultra-modern computer controlled dial-access information retrieval center.

Two hundred electronically equipped study carrels provide the student with instant audio and/or video channels to basic or enrichment information in his courses.

**Library.** An excellent reference library consisting of more than 30,000 volumes is housed in the learning resources center. A competent staff of service librarians constantly seek to help the student in his use of this facility.

## Student Housing

**Reservations.** Students wishing to make dormitory reservations should write to the Dormitory Director, Tyler Junior College, requesting an official application blank for this purpose. It must be accompanied by a deposit of \$30.00.

Students will be notified by mail of the date upon which they should arrive and the supplies which they should bring.

Students accepting dormitory housing must agree to occupy it for the length of the college year. The required deposit is non-refundable to those not remaining.

**Dining Hall.** Students living in the dormitories are required to take their meals in the College Dining Hall.

**Dormitories.** Three modern air-conditioned dormitories for men and four for women are maintained:

**Lillye Mae Vaughn Hall.** This women's residence hall was erected in 1958 and furnished through the generosity of Dr. and Mrs. Edgar H. Vaughn. It accommodates 48 women.

**Lois Holley Hall.** This dormitory, completed in 1969 and named in memory of Mrs. Lois Holley, houses 50 women.

**Claridge Hall.** This privately owned, dormitory for 90 women is operated under the same regulations and supervision as those owned by Tyler Junior College.

**Bateman Hall.** This privately owned Dormitory for 166 women is operated under the same regulations and supervision as those owned by Tyler Junior College.

**East Hall.** 40 men are accommodated in this dormitory.

**Center Hall.** Facilities for 48 men are provided.

**West Hall.** Facilities for 48 men are provided.

Note—Non-resident or non-commuting students must reside in college dormitories. No apartments are permitted except to married couples.

## Dormitory Holidays and Dining Hall Holidays

**Thanksgiving Holidays.** All dormitories will close November 25, 1970. They will reopen Sunday, November 29, 1970.

The dining hall will close following the noon meal November 25, 1970. It will reopen for breakfast Monday, November 30, 1970.

**Christmas Holidays.** The dormitories will close Tuesday, December 22, 1970. They will reopen Monday, January 11, 1971.

The dining hall will close following the noon meal Friday, December 22, 1970. It will reopen for breakfast Tuesday, January 12, 1971.

**Easter Holidays.** The dormitories will close Friday, April 2, 1971. They will reopen Tuesday, April 12, 1971.

The dining hall will close following the noon meal Friday, April 2, 1971. It will reopen for breakfast Tuesday, April 13, 1971.

## Tuition and Fees

Tuition rates in Tyler Junior College are low, since the college is partially supported by the State of Texas. Tuition is due in full at the beginning of the semester. Any other plan must be by special arrangement with the Business Manager. An additional fee of \$7.50 is charged for late registration — enrollment after the regularly scheduled registration days.

All tuition and fee charges are subject to change by the Texas State Legislature.

Tuition per semester is as follows:

<b>Residents of the TJC District:</b>	<b>Tuition per semester</b>
For three or more subjects.....	\$60.00
For two subjects .....	40.00
For one subject .....	20.00

<b>Texas Non-Residents of the TJC District:</b>	<b>Tuition per semester</b>
For three or more subjects.....	\$90.00
For two subjects .....	70.00
For one subject .....	35.00

Tuition rates for Evening Division courses for all residents of the State of Texas are the rates specified for residents of the Tyler Junior College District.

The tuition rate charged non-resident students is subject to increase without notice.

The Electronic Data Processing Program has a \$15.00 per semester rental fee in addition to the tuition.

For the tuition charged students in the technical, vocational and terminal courses — see special announcements of these courses. Page 102.

**Statutory Fees.** In accordance with the requirements of the statutes of the State of Texas all students in certain laboratory courses are charged an appropriate fee.

**Music Fees Per Semester — Individual Lessons**

	Regular Students Who Enroll for 12 Sem. Hours or More	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week	Special Students Who Enroll for Music Only	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week
Piano.....	\$75.00	\$100.00		\$90.00**	\$180.00**	
Voice.....	75.00	100.00		90.00**	180.00**	
Violin, Violoncello.....	75.00	100.00		90.00**	180.00**	
Harp.....	75.00	100.00		90.00**	180.00**	
Organ.....	75.00	100.00		90.00**	180.00**	
Clarinet.....	75.00	100.00		90.00**	180.00**	
Practice Room (four hours per week).....						\$ 4.00

\*\* Includes tuition plus special music fee.

**Graduation Fees.** A fee of \$7.50 is paid by students at the time of graduation.

**Non-Resident Tuition.** Students whose residence is outside the State of Texas, and who are thereby classified as non-resident students according to the definition provided by House Bill 507 (enacted by the Fiftieth Legislature of the State of Texas,) are charged a non-resident tuition of \$200.00 per semester for a full student load of twelve hours or more in accordance with the provisions of House Bill 507. The non-resident fee is subject to change without notice.

For less than twelve semester hours the non-resident rate is \$25.00 per semester hour, with a minimum of \$25.00.

**Refund Policy.** No refund of tuition will be made except for withdrawals effected during the first two weeks of the regular semester. Qualified applicants will be subject to a 20 per cent tuition charge. To qualify for the refund the applicant must have withdrawn by completing proper forms in the Registrar's office.

**Student Aids, Awards, Loans and Scholarships**

**The Honor Graduate Scholarship.** The highest honor graduate of any affiliated high school is given a scholarship covering his tuition. This scholarship must be used within one year from the date of graduation.

**The A.A.U.W. Women's Graduate Scholarship.** The Tyler Branch of the American Association of University Women has established an annual scholarship of \$100 to be awarded to a woman grad-

uate. The scholarship is awarded on the basis of scholarship, character, and need and is to be used for tuition and fees at the senior institution chosen by the student. The grantee is chosen by a scholarship committee of the A.A.U.W. from a list of three nominees by the college.

**Art Merit Award.** The Junior League of Tyler has established a \$100 annual award to be granted to the student showing the greatest achievement in the field of art.

**Alpha Delta Kappa Scholarship.** The Tyler Teachers Honorary Sorority Alpha Delta Kappa has established an annual tuition scholarship for a student who plans to become a teacher. The scholarship is granted on the basis of ability and prospective success in the field.

**The Crusaders Scholarship.** The Crusaders Class of the Marvin Methodist Church awards an annual scholarship in the amount of \$125 to a worthy student.

**The Advance Class Scholarship.** The Advance Class of the Glenwood Methodist Church gives two full tuition-fee-books scholarships annually to selected students.

**Granberry Pre-Dental Scholarship.** Dr. James H. Granberry, an alumnus of Tyler Junior College, has established an annual scholarship covering tuition, fees, and books for a pre-dental student. The scholarship is granted at the end of the freshman year to such a student demonstrating high ability and need.

**The Coterie Club.** The Coterie Club, composed of musicians and music lovers, has established a scholarship which is awarded annually to a student who shows outstanding talent in music.

**The Pounds Award.** Mr. and Mrs. W. A. Pounds, Sr. and Mr. W. A. Pounds, Jr. have established an annual award of \$1,000 given to a Tyler Junior College student whose personal characteristics and academic promise are such as to entitle him to financial encouragement in preparing himself for his life's work. Recipients of this award are carefully selected by a Faculty Committee and approved by one of the donors.

**The Florence and Marcus Strum Scholarships.** Mr. and Mrs. Marcus Strum of Tyler have established two tuition scholarships. The recipients must have reached sophomore standing and are selected on the basis of character, ability, and need.

**The Mr. and Mrs. Arthur Squyres Scholarship.** Mr. and Mrs.

Arthur Squyres of Tyler have established tuition and books scholarship for a graduate of Emmett Scott High School. The recipient is selected on the basis of character, ability, and need.

**The Wilton Fair Endowment.** Mr. and Mrs. Wilton Fair have established an endowment which is used each year for scholarships and similar purposes.

This endowment consists of the revenue from certain valuable oil properties deeded to the college. Mr. Fair, a former member of the Board of Trustees of Tyler Junior College and one of its most active supporters, and Mrs. Fair established this fund in 1952.

**The Pirtle Scholarship in Science and Engineering.** Through the generosity of Mr. and Mrs. George Pirtle an annual scholarship of five hundred dollars is bestowed upon a graduating student majoring in engineering or a physical science.

**The Texas Society of Professional Engineers Scholarship in Mathematics, Science or Engineering.** The Texas Society of Professional Engineers has established a five hundred dollar scholarship made to a graduating Tyler Junior College man or woman who plans to continue study leading to a degree in engineering, chemistry, geology, physics, or mathematics.

**The Breakfast Optimists' Club Scholarships.** The Breakfast Optimists' Club of Tyler has established an endowment fund from which the income is used for scholarships for students designated by a committee composed of the President and President of the Board of Trustees of Tyler Junior College and the President and Secretary-Treasurer of the club.

**Opti-Mrs. Club Scholarship.** The Opti-Mrs. Club, composed of the wives of the various Optimist Club members of Tyler, has established a \$120 tuition scholarship for a sophomore student based upon ability and need. The student chosen must be a resident of the Tyler Junior College District.

**The Mary Wallace Education Scholarship.** A \$120 annual scholarship for a second year student preparing for the teaching profession. The recipient must be of good character, pleasing personality, hold at least a B average in two semesters work and need scholarship aid.

**The Tyler Legal Secretaries Association Scholarship.** The Tyler Legal Secretaries Association has created an annual tuition scholarship for a woman resident of the Tyler Junior College District. The recipient must be in a Secretarial Training program.

Preference is given to one who indicates a desire to become a Legal Secretary. Aptitude and need are considered.

**The En Avant Club.** The En Avant Club, a group of civic-minded young ladies, annually provides a scholarship to some young woman.

**Lieutenant Ward van Orden Memorial Scholarship.** This is an annual scholarship of \$200.00 awarded to a freshman student on the basis of need coupled with proven college scholarship. It is made without consideration of race, color or creed in memory of Lt. van Orden, a graduate of Tyler Junior College who as a Navy Jet Fighter Pilot lost his life off North Viet Nam after 150 combat missions.

**John Tyler Parent-Teacher Association Scholarship.** A John Tyler graduate whose parent has been a member of the Parent-Teacher Association is eligible for the John Tyler Parent-Teacher Association Scholarship on the basis of ability and need.

The recipient is eligible to receive \$100 per year for the two-year Junior College period. Application may be made through the High School Counselor.

**The Optimist Club Oratorical Scholarship.** The Optimist Club of Tyler has established a \$100 scholarship in Tyler Junior College for the winner of the annual oratorical contest.

**The T. B. Butler Journalism Key.** The T. B. Butler Publishing Company of Tyler annually presents a gold key to the outstanding Journalism student of the college.

**Journalism Ex-Students Award.** The Journalism Ex-Students Association annually awards a cash scholarship to an outstanding student majoring in Journalism.

**The E. Fred Herschbach German Language Award.** Because of his sincere interest in the German language studies in Tyler Junior College Mr. E. Fred Herschbach of Tyler established a fund, the income from which annually provides a plaque and cash award to the outstanding second year student of German.

**The Watson W. Wise Incentive Award.** An endowment fund established by the Honorable Watson W. Wise, member of the Board of Trustees of the college, who has made many generous gifts to the college, provides an annual sum for a scholarship and beautiful trophy cup awarded to the student chosen by a faculty committee as the best exemplifying the virtues of industry, scholarship, and student activity.

**Tyler Lions Club Scholarships.** The Tyler Lions Club has established two annual scholarships of up to \$250 each for students in the Tyler High Schools and Tyler Junior College. The scholarships are restricted to students whose legal residence is in the City of Tyler and who combine qualities of good character and scholarship with need. The scholarships are designed to pay for tuition, fees, and books. Students will be recommended by the high school counsellors and designated by the Board of Directors of the Tyler Lions Club.

**The D.A.R. Scholarship.** The Mary Tyler Chapter of the Daughters of American Revolution awards a \$100 scholarship annually to an outstanding woman student who is completing her freshman year.

**The Juried Arts Scholarships.** Juried Arts, Incorporated annually presents one or more patron scholarships to students majoring in Art.

**The Century Scholarship.** The Century Class of ladies of the Marvin Methodist Church awards \$120 annually to a local girl on the basis of character, ability and need.

**Sales and Marketing Executive Scholarship.** The Tyler Sales and Marketing Executive Club has established one or more scholarships for talented, deserving students entering college who intend to pursue a career in sales and marketing. These are awarded through the College Scholarship Committee.

**Smith County Bar Association Scholarship.** The Smith County Bar Association has established an annual scholarship of \$150 which is granted to a student completing his freshman year and planning to major in History, Government or Economics or to one registered in a pre-law program of any kind.

The award is deposited with Tyler Junior College for the student's expenses in his second year. Outstanding scholarship and participation in extra-curricular activities are the basic qualifications upon which the choice is made. Need of the student is a secondary qualification.

**The Texas Opportunity Plan Loans.** Students who are residents of Texas may, if qualified, receive loans to cover expenses while attending Tyler Junior College provided by the Texas Opportunity Loan Fund of the State of Texas.

Mr. Gene Blakely is the official loan officer and applications should be made directly to him.

**The Tyler City Council of Parents and Teachers Scholarship.** The Tyler City Council of Parents and Teachers has established an annual scholarship not to exceed \$200 or as much of that amount as is required for tuition, books, fees, etc.

The scholarship is granted to an outstanding and deserving boy or girl graduate of Robert E. Lee or John Tyler High School. Application for the scholarship may be made to the Counselor of the high schools, any member of the Scholarship Committee, or any of the Local Unit Presidents.

**Women's Symphony League Scholarship.** The Tyler Women's Symphony League annually grants a \$150 scholarship to an outstanding woman music student.

**John Ben Sheppard Scholarship.** The Texas Law Enforcement Foundation created the John Ben Sheppard Scholarship Fund to provide college educations for children of Texas law enforcement officials killed in performance of duty.

The fund makes college scholarships available for children of law enforcement officers on any level of jurisdiction killed in the performance of duty. The amount of a grant depends on the need of the student.

A Scholarship Committee composed of members of the board of directors of the Texas Law Enforcement Foundation will consider the following points in screening qualified scholarship applicants:

- (1) Aptitude for college work, (2) Desire for college training, (3) Financial need.

**Rehabilitation Assistance.** The Texas Rehabilitation Commission offers assistance for tuition and required fees to students who have certain physical or emotional handicaps, provided the vocational objective selected by the handicapped person has been approved by an appropriate representative of the Commission. Through this State agency, other rehabilitation services are available to assist handicapped persons to become employable.

Application for this type of assistance should be made to the nearest Rehabilitation office. Inquiries may be addressed to: Texas Rehabilitation Commission, 216½ West Erwin Street, Tyler, Texas 75701, Telephone: 593-8828.

**Connally-Carillo Scholarships.** Under the provisions of the Connally-Carillo Act the State of Texas pays the tuition and fees of

students who graduated in the upper quarter of their class in an accredited high school provided the family income for the preceding year did not exceed \$4800.00.

**Texas Law Enforcement Foundation Scholarships.** The Texas Law Enforcement Foundation makes available scholarships for sons and daughters of deceased law enforcement officials. Application blanks for this or the John Ben Sheppard Scholarship may be obtained from the Foundation Office, 3914 Seminole, Houston 27, Texas.

**Veterans' G.I. Bill of Rights.** Veterans with military service since 1955 are eligible for federal payments and benefits while attending Tyler Junior College.

Mr. Herbert Richardson is the Veteran's Counselor, veterans may see him or phone him for information and assistance in applying for these benefits.

**Veteran Dependency Scholarships.** The Federal Government has set up provisions in Public Law 634 whereby certain veteran dependents may be eligible for a subsidy while pursuing their education. Orphans of service personnel and dependents of veterans with service connected disability may find themselves eligible.

**Vocational Rehabilitation Assistance.** The State Board of Vocational Education, through the Vocational Rehabilitation Division offers assistance for tuition to students who have physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Division. Application for Vocational Rehabilitation assistance should be made to the Rehabilitation office, Box 2034, Longview, Texas, or to the Director of Vocational Rehabilitation, Texas Education Agency, Austin, Texas.

**The Mrs. Gary Bennie Henson Loan Fund.** This loan fund was established in 1970 in memory of Mrs. Gary Bennie Henson, a member of a prominent philanthropic Tyler family. The student begins repayment when his earnings begin.

## Student Activities

The Tyler Junior College provides various types of student activities which furnish training in leadership, afford opportunities for recreation, and serve as a means of student development. Among these activities are the following:

**The Apache.** The Apache is the college yearbook. It is an outstanding publication edited and published by a student staff.

**The Apache Band.** The internationally-famous Apache Band is the official college band, open to all qualified students.

**The Apache Belles.** The internationally-famous Apache Belles is a uniformed women's organization which presents skilled group performances and routines at football games, and on other occasions.

Throughout the year special study is given to good taste in clothing, make-up, manners and general personal improvement.

**The TJC Pow-Wow.** The Pow-Wow, the official college newspaper, is prepared and managed by a student staff under the direction of faculty sponsors. Students act as reporters, editors, and business managers of this publication. The paper is furnished free to students.

For twenty-seven consecutive times the Apache Pow-Wow has won the highest award given by the Associated Collegiate Press. This award, The **All American Honor Rating**, is given in recognition of merit to a limited number of colleges and universities annually.

**The Apache Guard Association.** A service organization of college men dedicated to the development of college spirit and good sportsmanship. The association sponsors worthwhile projects.

**Athletics.** The college schedules intercollegiate competition in football, basketball, baseball, tennis and golf. For non-varsity students an extensive schedule of intramural sports and the physical education program affords all students many opportunities for participation.

**The Singing Apaches.** The Singing Apaches is a choral society open to capable students interested in vocal music.

**The Engineers' Club.** This club is composed of students interested in all fields of engineering. Various field trips are taken to indicate the future possibilities of the different branches of the engineering profession.

**Sigma Sigma.** This organization consists of students preparing to enter the business vocations, such as secretarial and clerical.

It provides helpful guidance to the members of the club, as well as pleasant social activities.

**The French Club.** Le Cercle Francais welcomes students who are interested in France, the French language, and in the French way of life. Bi-weekly business meetings are conducted and its members gather socially one night each month for films, refreshments, and other recreational activities.

**Old Heidelberg Club.** This organization, sponsored by the German Department, invites those interested in the study of the language, culture and traditions of the German people.

**Las Mascaras Dramatic and Forensic Club.** Las Mascaras fosters an interest in all phases of forensic and dramatic art. Any student in Tyler Junior College who is interested in them is eligible for membership. Las Mascaras sponsors major dramatic productions and forensic competitions each year.

**Phi Theta Kappa.** The Alpha Omicron Chapter of Phi Theta Kappa, the national Junior College scholastic fraternity, is composed of members selected on the basis of scholarship, character, leadership and service. Its membership is restricted to ten percent of the students enrolled in the Tyler Junior College, and the faculty and local chapter name as members those students meriting special honor.

**The Student Senate.** The Student Senate is the official organization for student government.

**Social Activities.** The social activities of the college include parties, dances, feature movies and other social affairs under the direction and management of the Student Senate and a faculty committee headed by the Dean of Student Life.

**Community Concerts.** The Tyler Community Concerts organization extends to any regular Tyler Junior College student the privilege of free admission to its concerts at Wise Auditorium on presentation of a valid Tyler Junior College Activity Card.

## SUGGESTED COURSES OF STUDY FOR FRESHMEN

**Planning a Program in Tyler Junior College.** It is important that the beginning college student determines his objective at the time of enrollment and then plans his program to carry him directly to its achievement.

Tyler Junior College, with its Counseling Staff and broad course offerings, assists in planning each student's program to meet his needs.

Transfer students are given course plans designed to meet the special requirements of the degree choice at the chosen Senior College or University. Terminal program students are given courses which prepare them for the career of their choice.

**The Texas Junior College Core Curriculum Program.** Texas Public Junior College students planning to transfer in baccalaureate programs to Senior Colleges or Universities in the Texas College and University System may, by law, follow special two-year programs as promulgated by the State Coordinating Board. Upon successful completion of the full two-year program of not more than sixty-six hours, the student may transfer it all en-bloc fulfilling all requirements for the first two years of the chosen degree objective. The student must have met the Senior institution's own grade requirements for its own students. The Senior institution must, by law, permit the student all the privileges of its own students who began their program at the same time.

Core curricula have been promulgated in three fields as follows:

### MAJOR FIELD I

**Bachelor of Arts Degree in Arts and Sciences**

**Bachelor of Science in Mathematics & Natural Sciences**

a. English Language Proficiency (i.e., freshman English)	3-6 hours
b. Literature	6 hours
c. Government (to meet state statute requirement)	6 hours
d. History (to meet state statute requirement)	6 hours
e. Natural Science A	6-8 hours Biological Science
f. Natural Science B	6-8 hours Physical Science

g. Mathematics (collegiate level)	6 hours
h. Foreign Language	for the BA degree: 12-14 hours in a single language for the BS degree: 6-8 hours in a single language
i. Humanities and Fine Arts	
Electives: excluding courses in literature beyond b. above, also no more than 12-14 hours of foreign language may be used in h. and i. combined	6 hours
j. Special Courses	— —

**MAJOR FIELD II****Bachelors Degree in Business Administration**

a. English Language Proficiency (i.e., freshman English)	6 hours
b. Literature	6 hours
c. Government (to meet state statute requirement)	6 hours
d. History (to meet state statute requirement)	6 hours
e. Natural Science A	6-8 hours
f. Natural Science B	— —
g. Mathematics (collegiate level)	6 hours (college algebra plus a se- quential course appropriate to a business degree)
h. Foreign Language	— —
i. Humanities and Fine Arts	
Electives: excluding courses in literature beyond b. above, also no more than 12-14 hours of foreign language may be used in h. and i. combined	9 hours
j. Special Courses	Economics: 6 hours Accounting: 6 hours

**MAJOR FIELD III****Bachelors Degree in Engineering**

a. English Language Proficiency (i.e., freshman English)	9 hours
b. Literature	— —
c. Government (to meet state statute requirement)	6 hours
d. History (to meet state statute requirement)	6 hours
e. Natural Science A	8 hours Chemistry
f. Natural Science B	8 hours Physics
g. Mathematics (collegiate level)	9 hours (analytical geometry and calculus)
h. Foreign Language	
i. Humanities and Fine Arts Electives: excluding courses in literature beyond b. above, also no more than 12-14 hours of foreign language may be used in h. and i. combined	3 hours (to satisfy ECPD requirements)
j. Special Courses	Engineering Mechanics: 3 hours Engineering Graphics: 2 hours

**GENERAL PLANS**

The following plans are a few of the most popular fields. Their listing does not indicate that others cannot be taken. College officials will work out degree programs in any desired field.

Since college plans differ, the student should check his course by the catalogue of the college to which he intends to transfer or request the Registrar or Counselor to assist him in doing so.

All first year students take Physical Education unless excused by a doctor's statement.

**Agriculture.** (Texas A. & M. Plan. Special course plans for other institutions will be arranged.)

SUBJECT	CREDIT
English .....	6 semester hours
Chemistry .....	8 semester hours
Algebra .....	3 semester hours
Biology 124 B .....	4 semester hours
Agriculture .....	6 semester hours
United States History .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	1 semester hour

**Bachelor of Arts or Bachelor of Science Degree.**

English .....	6 semester hours
Mathematics .....	6 semester hours
United States History .....	6 semester hours
Natural Science .....	6 or 8 semester hours
Foreign Language .....	8 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	1 semester hour

**Bachelor of Business Administration.** (General Plan)

Mathematics .....	6 semester hours
English .....	6 semester hours
Natural Science .....	6 or 8 semester hours
Speech .....	3 semester hours
United States History .....	6 semester hours
Typewriting (non-credit) .....	0 semester hours
Elective .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	1 semester hour

**Dentistry.**

English .....	6 semester hours
Chemistry .....	8 semester hours
Biology .....	8 semester hours
United States History .....	6 semester hours
Elective .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	1 semester hour

**Elementary Education Major.**

English .....	6 semester hours
Mathematics or Foreign Language.....	6 or 8 semester hours
United States History .....	6 semester hours
Geology or General Biology.....	8 semester hours
Music or Art .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Secondary Education Major.** The plan is the same as the above except music or art is not required unless the student plans to major in one of these fields. Others should substitute subjects in the chosen major fields for music or art.

**Engineering.** See complete optional plans, Pages 79-80.

**Forestry.**

English .....	6 semester hours
Algebra .....	3 semester hours
Biology .....	8 semester hours
Trigonometry .....	3 semester hours
Engineering Drawing .....	3 semester hours
Descriptive Geometry .....	3 semester hours
United States History .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Geology.**

English .....	6 semester hours
Chemistry .....	8 semester hours
Trigonometry .....	3 semester hours
Algebra .....	3 semester hours
Analytic Geometry .....	3 semester hours
Geology .....	8 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Home Economics.**

English .....	6 semester hours
Chemistry .....	6 or 8 semester hours
Home Economics .....	6 or 9 semester hours
Electives .....	6 semester hours
United States History .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Law.**

United States History .....	6 semester hours
English .....	6 semester hours
Natural Science .....	8 semester hours
Mathematics .....	6 semester hours
Public Speaking .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

Typewriting (non-credit, if taking the  
Business Administration Plan) ..... 0 semester hours

**Mathematics.** See mathematics section, Pages 79-80.

**Medicine. (Associate Degree Plan)**

English .....	6 semester hours
Chemistry .....	8 semester hours
Algebra .....	3 semester hours
Foreign Language .....	8 semester hours
United States History .....	3 semester hours
Biology .....	8 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Music.****Bachelor of Music Degree****Freshman Year**

Music 113T, 123T .....	6 semester hours
Music 113L, 123L .....	6 semester hours
Applied Music .....	8 semester hours
Musical Organizations .....	2 semester hours
English 113, 123 .....	6 semester hours
United States History or Electives .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Sophomore Year**

Music 213T, 223T .....	6 semester hours
Music 212T, 222T .....	4 semester hours
Applied Music .....	8 semester hours
Musical Organizations .....	2 semester hours
English 213, 223 .....	6 semester hours
Government or Electives .....	6 semester hours

**Physics.** See physics section, Pages 95-96.

### PROFESSIONAL NURSING

The Tyler Junior College, Medical Center Hospital, and Mother Frances Hospital cooperatively operate the Texas Eastern School of Nursing as a separate, non-profit corporation.

Students desiring to enroll in the three-year program should make application directly to the Registrar at 801 Clinic Drive, Tyler, Texas. Those accepted by the Nursing School receive their first two years of instruction through Tyler Junior College with liberal arts and science courses taught on the college campus. Nursing classes are taught at the Nursing School.

The School of Nursing is fully accredited by the National League of Nursing and the completion of its course of study leads to eligibility to take the State Examination for registration as a professional nurse with the title of R.N.

Students satisfactorily completing the first two years including six hours each in English, American History, and National and State Government receive the Associate-in-Science degree.

The following is the curriculum in Nursing for the first two academic years as taught in Tyler Junior College:

**First Year — First Semester.**

English 113 .....	3 semester hours
Biology 113B .....	3 semester hours
Biology 114A .....	4 semester hours
Chemistry 113 .....	3 semester hours
Psychology 213 .....	3 semester hours
Nursing 112 .....	2 semester hours

**First Year — Second Semester.**

English 123 .....	3 semester hours
Biology 123B .....	3 semester hours
Chemistry 123 .....	3 semester hours
Sociology 213 .....	3 semester hours
H. E. 123C .....	3 semester hours
Nursing 122 .....	2 semester hours

**First Year — Summer (1st 6 weeks).**

Nursing 133 .....	3 semester hours
Pharmacology 144 .....	4 semester hours

**First Year — Summer (2nd 6 weeks).**

Nursing 143 .....	3 semester hours
Nursing 112* .....	2 semester hours
Nursing 122* .....	2 semester hours

\*This will be offered at this time only for transfer students who have not had Introduction to Nursing during the fall and spring semester.

**Second Year — First Semester.**

Nursing 214A	3 semester hours
Nursing 214B	6 semester hours
Psychology 223A	3 semester hours
History 213	3 semester hours
Government 213	3 semester hours

**Second Year — Second Semester.**

Nursing 225	5 semester hours
Nursing 224	4 semester hours
History 223	3 semester hours
Government 223	3 semester hours

**Pre-Nursing Baccalaureate Degree Plan—Freshman Year.**

English	6 semester hours
United States History	6 semester hours
Biology	8 semester hours
Psychology	3 semester hours
Chemistry	6 semester hours
Sociology	3 semester hours
Psychology 111	1 semester hour
Physical Training	2 semester hours

**Optometry.**

English	6 semester hours
Physics	8 semester hours
Chemistry	8 semester hours
Biology	8 semester hours
Mathematics	6 semester hours
Psychology 111	1 semester hour
Physical Training	2 semester hours

**Pharmacy.**

English	6 semester hours
Biology	8 semester hours
Physics	8 semester hours
Chemistry	8 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	2 semester hours

**Journalism.**

English	6 semester hours
Natural Science	6 or 8 semester hours
Foreign Language	8 semester hours
Mathematics or Electives (see senior college plan)	3 semester hours
Journalism	3 semester hours

**Journalism (Continued)**

United States History .....	6 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**ONE YEAR BUSINESS AND COMMERCIAL COURSES**

For business students interested in an intensive business course, the Certificate of Proficiency is awarded either in secretarial science, electronic data processing, or general business, upon completion of 30 semester hours of work. These courses are planned to train the student for work in an office. All courses listed under the suggested plan are required.

**Secretarial Course**

## Shorthand 114S - 124S

or Shorthand 214S - 224S .....	8 semester hours
Typewriting 213T - 223T* .....	6 semester hours
Secretarial Practice 113F - 123F .....	6 semester hours
Office Machines 113M .....	3 semester hours
Business Correspondence 113C .....	3 semester hours
Business Mathematics 113D .....	3 semester hours
Secretarial Accounting 123 .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**General Business Course (1 year)**

Typewriting 113T-123T or 213T-223T .....	6 semester hours
Accounting 113A-123A .....	6 semester hours
Economics 213-223 .....	6 semester hours
Introduction to Business 113B .....	3 semester hours
Business Mathematics 113D .....	3 semester hours
Business Correspondence 113C .....	3 semester hours
Business Machines 113M .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

**Electronic Data Processing (1 year)**

English 113-123 or 223B .....	6 semester hours
Introduction to Business 113B .....	3 semester hours
Mathematics 113 .....	3 semester hours
Accounting 113A-123A or approved electives .....	6 semester hours
Business Machines 113M .....	3 semester hours
Electronic Data Processing 113-123 .....	6 semester hours
Speech 113A .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Training .....	2 semester hours

\* Students who have not developed some skill in typewriting cannot do secretarial practice nor shorthand.

**SUGGESTED ASSOCIATE IN APPLIED  
BUSINESS ADMINISTRATION DEGREE PLANS.**

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**GENERAL SECRETARIAL PROGRAM**

**First Year — First Semester.**

English 113 .....	3 semester hours
*Shorthand 114S .....	4 semester hours
*Typewriting 113T .....	3 semester hours
Secretarial Practice 113F .....	3 semester hours
History 213 .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Education .....	2 semester hours

**First Year — Second Semester.**

English 123 or 223B .....	3 semester hours
Shorthand 124S .....	4 semester hours
Typewriting 123T .....	3 semester hours
Secretarial Practice 123F .....	3 semester hours
History 223 .....	3 semester hours
Physical Education .....	2 semester hours

**Second Year — First Semester.**

Government 213 .....	3 semester hours
Business Mathematics 113D .....	3 semester hours
Office Machines 113M .....	3 semester hours
Shorthand 214S .....	4 semester hours
Elective (Economics 213 or Accounting 113A recommended) .....	3 semester hours

**Second Year — Second Semester.**

Government 223 .....	3 semester hours
Secretarial Accounting 123 .....	3 semester hours
Business Correspondence 113C .....	3 semester hours
Shorthand 224S or Executive Secretaryship 223F .....	3 or 4 semester hours
Elective (Economics 223 or Accounting 123A recommended) .....	3 semester hours

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\* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

**MEDICAL SECRETARIAL PROGRAM****First Year — First Semester.**

English 113 .....	3 semester hours
*Shorthand 114S .....	4 semester hours
*Typewriting 113T .....	3 semester hours
Business Mathematics 113D .....	3 semester hours
Biology 114 .....	4 semester hours
Psychology 111 .....	1 semester hour
Physical Education .....	2 semester hours

**First Year — Second Semester.**

English 123 or 223B .....	3 semester hours
Typewriting 123T .....	3 semester hours
Shorthand 124S .....	4 semester hours
Secretarial Accounting 123 .....	3 semester hours
Office Machines 113M .....	3 semester hours
Physical Education .....	2 semester hours

**Second Year — First Semester.**

Government 213 .....	3 semester hours
Psychology 213 .....	3 semester hours
Typewriting 213T .....	3 semester hours
Shorthand 214S .....	4 semester hours
(Medical Secretary Option)	
Anatomy & Physiology 113B .....	3 semester hours

**Second Year — Second Semester.**

Government 223 .....	3 semester hours
Business Correspondence 113C .....	3 semester hours
Anatomy & Physiology 123B .....	3 semester hours
Secretarial Practice 223F .....	3 semester hours
Shorthand 224S .....	4 semester hours
(Medical Secretary Option)	

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\* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

**LEGAL SECRETARIAL PROGRAM****First Year — First Semester.**

English 113 .....	3 semester hours
*Typewriting 113T .....	3 semester hours
*Shorthand 114S .....	4 semester hours
Business Mathematics 113D .....	3 semester hours
Introduction To Business 113B .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Education .....	2 semester hours

**First Year — Second Semester.**

English 123 or 223B .....	3 semester hours
Typewriting 123T .....	3 semester hours
Shorthand 124S .....	4 semester hours
Business and Professional Speaking 223A .....	3 semester hours
Secretarial Accounting 123 .....	3 semester hours
Physical Education .....	2 semester hours

**Second Year — First Semester.**

Government 213 .....	3 semester hours
Office Machines 113M .....	3 semester hours
Shorthand 214S (Legal Secretary Option).....	4 semester hours
Typewriting 213T .....	3 semester hours
Psychology 213 .....	3 semester hours

**Second Year — Second Semester.**

Government 223 .....	3 semester hours
Secretarial Practice 223F .....	3 semester hours
Shorthand 224S (Legal Secretary Option).....	4 semester hours
Psychology 223 .....	3 semester hours
Business Correspondence 113C .....	3 semester hours

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\* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

**GENERAL OFFICE OCCUPATIONS****First Year — First Semester.**

English 113 .....	3 semester hours
*Typewriting 113T .....	3 semester hours
Elementary Accounting 113A .....	3 semester hours
Introduction to Business 113B .....	3 semester hours
Business Mathematics 113D .....	3 semester hours
Psychology 111 .....	1 semester hour
Physical Education .....	2 semester hours

**First Year — Second Semester.**

English 123 or 223B .....	3 semester hours
Typewriting 123T .....	3 semester hours
Elementary Accounting 123A .....	3 semester hours
Business and Professional Speaking 223A .....	3 semester hours
Business Correspondence 113C .....	3 semester hours
Physical Education .....	2 semester hours

**Second Year — First Semester.**

Government 213 .....	3 semester hours
Economics 213 .....	3 semester hours
Typewriting 213T .....	3 semester hours
Office Machines 113M .....	3 semester hours
Psychology 213 .....	3 semester hours

**Second Year — Second Semester.**

Government 213 .....	3 semester hours
Economics 223 .....	3 semester hours
Psychology 223 .....	3 semester hours
Electives .....	6 semester hours

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\* Students will be placed in typing at determined proficiency levels and professional electives substituted where warranted.

## Description of Courses

For a description of the system of numbering of courses, see pages 21-22 of this catalogue.

### Aeronautics

**Aeronautics 113 — Flight Theory I (3-0)** The principles of flight, basis of air traffic control, weather facts, navigational procedure and airplane operation as are pertinent for the Private Pilot; upon successful completion of this course, the student has sufficient knowledge to pass the Federal Aviation Agency written examination for the Private Pilot Certificate, which constitutes the final examination.

**Aeronautics 113A — Aerophysics (3-0)** An introduction to physics, physical terms, the basis for physical laws in practical aeronautics. Course of study includes laws of motion, gas laws, electromagnetism, basic principles of electrical circuits, hydraulics and pneumatics.

**Aeronautics 113B — Basic Flight (Private Pilot) (1-3)** An introduction to flight through actual flying experience in modern, safe, fully equipped airplanes. A total of 71 hours of instruction is provided, including 25 hours of dual flight, 25 hours of solo flight and 21 hours of oral instruction, pre-flight instruction and briefing. This course is designed for the completion of the Private Pilot Certificate; it exceeds the minimum flight hours necessary to satisfy the Federal Aviation Agency requirements. The student should also enroll in Aeronautics 113, Flight Theory, which is the private Pilot Ground School, or show evidence of having successfully passed the Federal Aviation Agency written examination for the Private Pilot Certificate.

**Aeronautics 123 — Flight Theory I (3-0)** The basic elements of air navigation; the fundamentals and practical application of pilotage and dead reckoning, including the use of the plotter, computer, aerial charts and Federal Aviation Agency publications pertinent to flying.

**Aeronautics 123A — Aerodynamics (3-0)** Analysis of the physics of flight including the application of basic aerodynamics to the wing and airfoil and the analysis of lift and drag components relative to the wing planform and airplane performance. The application of aerodynamic effect of turbo jet engines involving the principles of propulsion.

**Aeronautics 123B—Flight - Intermediate I (Commercial Pilot) (1-4)**

This course is the first half of two phases of flight training in preparation for the Federal Aviation Agency Commercial Pilot Certificate. A total of 75 hours of instruction is provided, including 15 hours of dual flight, 40 hours of solo flight and 20 hours of oral instruction and briefing.

**Aeronautics 213 — General Aviation Safety (3-0)** A study of the fundamentals essential to safe flight; the instruments used and the evaluation and interpretation of their indications. Weight and Balance problems are given consideration, as are the Federal Aviation Agency Regulations pertaining to safe flight.

**Aeronautics 213A — Radio Aids and Communication (3-0)** Basic radio fundamentals as are used by the pilot. A description and practical use of various radio aids to safe aerial navigation, including Very High Frequency Omni Range (VOR), Instrument Landing System (ILS), Direction Finding (DF), and others. Charts and approach plates as adapted to radio navigation, including the use of the Flight Information Manual and the Airman's Guide.

**Aeronautics 213B — Flight - Intermediate II (Commercial Pilot) (1-3)** A continuation of Aeronautics 123B. The second half of two phases of flight training leading to the successful completion of the Federal Aviation Agency Commercial Pilot Certificate. A total of 75 hours of instruction is provided, including 15 hours of dual flight, 40 hours of solo flight and 20 hours of oral instruction and briefing.

**Aeronautics 213C — Propulsion Systems (3-0)** Principles of operation and construction features of various types of aircraft engines: Reciprocating (in-line, opposed, and radial), compound turboprop, turbojet, and turbofan. Consideration is also given to thermal, mechanical and volumetric efficiencies; superchargers; engine accessories; controls and instrumentation.

**Aeronautics 223 — Instrument Theory II (3-0)** A study of Air Traffic Control Instrument Procedures and enroute instrument charts — approach plates, together with Federal Air Regulations pertaining to flight operation under instrument conditions. Successful completion of this course should prepare student to pass Federal Aviation Agency written test on instrument theory.

**Aeronautics 223A — Flight Advanced I (Instrument Pilot) (2-2)** The necessary instruction to qualify for the Federal Aviation Agency Instrument Pilot Rating. A total of 60 hours of instruc-

tion is provided, including 30 hours of dual flight, 10 hours of synthetic flight and 20 hours of oral instruction and briefing.

**Aeronautics 223B — Flight Advanced II (Multi-Engine Pilot) (0-3)**

This course of flight training leads to the Federal Aviation Agency Multi-Engine Pilot Rating. All flying is given in modern twin-engine aircraft and is designed to give the advanced pilot a greater depth of aircraft experience. A total of 20 hours of instruction is provided, including 10 hours of dual flight and 10 hours of oral instruction and briefing.

## Air Conditioning and Refrigeration

**Air Conditioning 113 — Fundamentals of Refrigeration (3-0)**

Terminology, laws of refrigeration, absolute pressure and absolute temperature, energy conversion units; specific heat, latent heat, and sensible heat; measurement of heat in quantity and intensity; tone of refrigeration, pressure temperature relationships, transfer of heat by conduction, convection and radiation; elementary refrigeration, methods applicable to air conditioning, and refrigeration.

**Air Conditioning 123 — Refrigeration Machines (3-0)** Refrigerants and their application in commercial refrigeration; system components, accessories, installation procedures and techniques; diagnosing service problems of mechanical difficulties; methods of defrosting; and making sketches of designs for high, medium, and low temperature installation. Symbols for refrigeration and piping equipment will be used in making sketches.

**Air Conditioning 213 — Commercial Refrigeration Systems (2-4)**

Procedures of load calculating used in commercial refrigeration. Various types of installations are studied with emphasis on the product to be cooled, the desired temperatures to be maintained, and humidity conditions. Problems involving system balance and component capacity. Use of heat load charts, pipe sizing tables, manufactured data, and specification sheets.

**Air Conditioning 213A — Heating (2-4)** Warm air systems, heat emitters, electric heating, forced hot water and steam heating systems including selection and sizing of equipment — registers, grills, furnaces, boilers, radiators, baseboard, piping, and ducts. Fuels and burners used in supplying heat for various types of heating systems — coal, oil, natural gas, manufactured gas, liquified petroleum gas, and electricity. Experiments in equipment selection, installation, adjusting, and servicing will be con-

ducted. Heating layout and specifications for an existing structure or one in blueprint stage will be prepared.

**Air Conditioning 223 — Air Conditioning Principles (2-4)** An introduction to air distribution. Humidity, saturated and unsaturated mixtures; psychrometric charts and graphs; specific heat and air flow calculations, heat load calculations, the state of mixture of two air streams, bypass factor and dehumidification.

**Air Conditioning 223A — Related problems - System Designs**

**(2-4)** The student will conduct research project and writing a report which involves an actual installation. This course consists of making drawings that emphasize commercial refrigeration and air-conditioning layouts. Information is gathered, calculations are made, schematic drawings are prepared, and specifications written for the specified installations.

## Agriculture

Agriculture Courses with the Asterisk are offered in 1970-71.

**\*Agriculture 113 — General Animal Husbandry (2-2)** An introductory survey course intended to acquaint the student with the importance of livestock and livestock farming. General factors influencing efficiency in feeding, market value, breeding, health and adaptability of various species to geographical and climatic regions are studied. The course is designed to develop in the student an appreciation of improved livestock. Selecting and judging the various breeds and market classes are stressed in laboratory.

**\*Agriculture 114A — General Entomology (3-2)** The systematic study of the principal orders of insects; the relation of the anatomy of the insect to control measures; the life histories of the more common insects; methods of control for injurious forms.

**Agriculture 113B — Dairying (2-2)** Dairying in its relation to agriculture and community development; branches of dairy industry and conditions affecting their development; the place of dairying on the farm; composition and food value of milk and its products; the production and handling of clean milk on the farm.

**Agriculture 113C — Poultry Production (2-2)** The breeds and types of poultry, culling, poultry for egg production, incubation, brooding and feeding for growth and egg production, winter

and summer management, housing and hygiene, preparing poultry for market, methods of marketing; practical application of these subjects to general farm conditions. The practice consists of the identification of breeds and varieties, judging, poultry for egg production, plans for poultry farms and poultry houses, identification of feeds.

**Agriculture 113E — Introduction to Agricultural Economics (3-0)**

Characteristics of our economic system and basic economic principles. Organization and management of the farm and ranch firm; structure and operation of the agricultural marketing system; functional and institutional aspects of agricultural finance; the farm problem, its causes, consequences and suggested solutions.

**Agriculture 113F — Farm Management (3-0)** The art and business of managing a farm, including the study of choosing suitable major and minor enterprises that will provide a profitable business; such as selecting a farm, using proper kinds and amount of labor and capital, simple and accurate cultural organizations, agriculture experiment and extension service.

**Agriculture 113G — Landscaping (3-0)** This course will acquaint the student with trees, shrubs, grasses perennials, and annuals suitable for landscaping the home grounds, churches, schools, and parks. Biological classification, plant characteristics, best combinations, propagation methods, digging, bagging, transplanting, pruning, and care will be studied.

**Agriculture 123 — Fundamentals of Crop Production (2-2)** Classification and distribution of farm crops; importance of good varieties and good seed; crop improvement; preparation of the seed bed, commercial fertilizers, manures and lime; seeding practices; crop tillage; harvesting; meadow and pasture management; weeds; crop rotation; diseases and insect enemies.

**Agriculture 123D — Wildlife Management (3-0)** A course designed to acquaint the student with the wildlife resources of the United States with special reference to Texas. Emphasis is placed on the inter-relationship of plants and animals in our environment with plans and methods for rehabilitation, maintenance and increase of the desirable species.

**\*Agriculture 123B — Horticulture (2-3)** A general study of horticulture; the growth and fruiting habits of horticulture plants; a study of the principles and practices of propagating vegetables, fruits and ornamentals, including the methods of handling seed,

cuttage, layerage, grafting, budding and bulbs; a study of the planting, fertilization, care, culture, harvesting, handling and utilization of fruit and vegetable crops. Prerequisite: Biology 114B or taken concurrently.

**\*Agriculture 123C — Marketing of Agriculture Products (3-0)** A study of the general principles, practices, and problems involved in marketing farm products.

**Agriculture 213 — Methods of Animal Selection (3-0)** A study of the origin, history, and breed characteristics of livestock, including adaptation, distribution, and breed organizations. A detailed study will include the latest methods of animal selection. Prerequisite: consent of instructor.

### \* Art

**Art 113 — Creative Design (2-4)** Fundamental experience with various materials; emphasis upon the development of an awareness of the factors of visual expression, color, form and design.

**Art 113A — Interior Decoration (3-0)** This course includes a study of floor plans in relation to the work units and furnishings of the home and the selection and placing of furnishings suited to the modern home.

**Art 113B — Theory and Practice of Design (2-4)** A basic course in the fundamentals of color and form with emphasis on oils.

**Art 113C — Freehand Drawing (3-3)** A course designed to acquaint the student with the principles of freehand drawing with special emphasis on life drawing in charcoal and other media.

**Art 123 — Creative Design (2-4)** A basic course in the fundamentals of color and drawing in design.

**Art 123A — Interior Decorating (3-0)** A basic course that guides the student to an intelligent understanding of what is beautiful and useful in design, furnishing, decoration, and equipment of rooms.

**Art 123B — Theory and Practice of Design (2-4)** A continuation of Art 113B with emphasis upon still life and the human figure.

**Art 123C — Freehand Drawing (3-3)** A continuation of Art 113C. Prerequisite Art 113C.

**Art 114B — Elementary Design (2-4)** Materials, techniques and

media for Creative Art at the elementary level. May not be counted by art majors.

**Art 124B — Elementary Design (2-4)** A continuation of Art 114B. May not be counted by art majors.

**Art 213 — History of Art I (3-0)** A survey of the development of architecture, sculpture, painting and the minor arts from prehistoric time to the end of the Middle Ages. An analysis of art elements as applied to various forms of visual expression and an examination of characteristic styles as related to period cultures. Illustrated lectures.

**Art 213C — Ceramics (3-3)** Introduction to ceramic processes. Basic materials and techniques. Hand building, glazing and firing procedure, and introduction to the use of the potter's wheel.

**Art 223 — History of Art II (3-0)** A survey of the development of the arts and architecture in western Europe and America from the Renaissance through the twentieth century. Illustrated lectures.

**Art 223C — Ceramics (3-3)** Problems in ceramics. Personal and professional development in forming and decorating techniques. Emphasis on mastery of potter's wheel, glaze calculation, and casting methods.

## Bible

These courses are given by affiliation with the Baptist Chair of Bible, the Bible Chair of Texas Methodist Student Movement, The Fifth Street Presbyterian Bible Chair, and the Church of Christ Bible Chair. A maximum of twelve semester hours is accepted toward a degree.

**Bible 111 — Selected Studies in the Old Testament (1-0)** A brief course of study involving either an Old Testament book or theme.

**Bible 111A — Selected Studies in the New Testament (1-0)** A brief course of study involving either a New Testament book or theme.

**Bible 111B — Selected Studies in Church History (1-0)** A brief course of study involving either a general synopsis of Church History, a particular era of Church History, or a History of the Bible.

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\* Students planning to transfer art credit on a bachelors degree are required to prepare and retain a portfolio of their work to facilitate their transfer.

**Bible 111C — An Introduction to Christianity (1-0)** A brief course of study involving theological terms, great Bible themes, and a comparison of Christianity with other religions.

**Bible 113 — Old Testament Survey (3-0)** A study of all the books of the Old Testament giving attention to the historical setting, the message, and the place of each book in its relation to the Bible as a whole.

**Bible 123 — New Testament Survey (3-0)** A study of all the books of the New Testament as to author, message, and relation to the entire Bible.

**Bible 213 — Life and Teachings of Jesus (3-0)** A study of the life of Jesus and His teachings as applied to present-day life.

**Bible 223 — Life and Teachings of Paul (3-0)** A study of the life and teachings of Paul and their part in the early spread of Christianity.

## Biology

**Biology 114 — Animal Biology (3-3)** An introductory study of the nature of protoplasm and the structure and function of cells is followed by a survey of the animal kingdom, with emphasis on such forms as are of human interest or application. There follows a study of adaptations in selected types as a basis for a consideration of the origin of species and the principles of organic evolution. This course may be followed, or preceded, by Biology 124B by students desiring a year of general biology; it should be followed, or preceded, by Biology 124 by those desiring general zoology.

**Biology 124 — Animal Biology (3-3)** A study of organ systems of vertebrates, with special reference to man, followed by an introduction to embryology and to the basic principles of heredity.

**Biology 124B — General Botany (3-3)** An introduction to the plant kingdom with emphasis on the importance of plants to man.

**Biology 113B — Anatomy and Physiology (2-2)** A study of the anatomy and physiology of the human body. It emphasizes biological principles as applied to vertebrates in general and man in particular.

**Biology 123B — Anatomy and Physiology (2-2)** A continuation of Biology 113B.

**Biology 114A — Microbiology (3-2)** The characteristics and activities of microorganisms and their relation to health and disease.

**Biology 224 — Comparative Vertebrate Anatomy (3-4)** A comparative study of the morphology, physiology, and phylogenesis of vertebrate organ systems. Required of pre dental, premedical and biology majors. Prerequisite: Biology 114 and 124 or 124B.

## Business Administration

**Business Administration 113 — Oil and Gas Law (3-0)** A course designed for workers in petroleum production, leasing, scouting and other oil industry activities.

**Business Administration 113A — Elementary Accounting (3-0)** Fundamental principles of double-entry bookkeeping applied to a sole proprietorship. Emphasis is given to the following records: financial statements, trial balance, working sheet, special journals, fixed assets and depreciation, notes, and a practice set covering the complete bookkeeping cycle.

**Business Administration 123A — Elementary Accounting (3-0)** A continuation of Elementary Accounting 113A. Attention is given to accrued income, accrued liabilities, deferred charges, deferred credits, depreciation, bad debts, taxes, reserves, controlling accounts, and business vouchers. Two practice sets for a sole proprietorship are completed, and bookkeeping for partnerships and corporations are introduced. Prerequisite: Elementary Accounting 113A.

**Business Administration 123B — Federal Tax Accounting (3-0)** This course deals primarily with the current federal income tax laws. While some attention is given to the economic, social and historic viewpoints, major emphasis is placed on the technical and accounting aspects, including the preparation of income tax returns.

Prerequisite: Instructor's consent.

**Business Administration 113B — Introduction to Business (3-0)** A general business course designed to give the student an understanding of the fundamental principles of business operation.

**Business Administration 113C — Business Correspondence (3-0)** A study of grammar, punctuation, sentence structure, paragraphing and composition of business letters.

**Business Administration 113D — Business Mathematics (3-0)** This course covers the simpler exercises and problems of every-day business calculations—including such topics as the use of aliquot parts, practice on short methods of calculation, fractions, percentage, interest and discount, bonds, depreciation, social security, taxes, property taxes, insurance and stocks.

**Business Administration 113M — Office Machines (3-0)** A course planned to develop in the student a working knowledge of a variety of adding-listing machines, calculating machines, posting, and bookkeeping machines.

**Business Administration 113F-123F — Secretarial Practice (3-0)** A course designed for students who are interested in the secretarial field. It covers speed dictation, transcriptions, office ethics, duplicating, office machines, filing and postal information; practice is given in interviewing callers, attending business conferences, and in telephone technique. Typing skill is a prerequisite for this course.

**Business Administration 113S-123S — Elementary Shorthand (2-6)** Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing and rapid reading of shorthand. In the second semester emphasis is given to readiness and accuracy in transcription.

Two hours lecture, two hours laboratory, and at least six hours outside work per week is required.

**Business Administration 114S-124S — Elementary Shorthand (3-7) (3-3-2)** Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing, and rapid reading of shorthand.

No credit in shorthand is granted until proper efficiency in typewriting is demonstrated. Students must attain a typing speed of at least sixty words per minute with not more than five errors in order to receive credit in Shorthand 124S.

In the second semester there is continued study and review of the principles of shorthand. Dictation and transcription of new matter with emphasis upon readiness and accuracy in transcription. One year of typewriting is recommended.

**Business Administration 113T-123T — Typewriting (1-4)** A beginner's course in typewriting. Exercises for the mastery of the keyboard by the touch system, instruction in the care of the ma-

chine, study of form and arrangement of simple business letters, and simple centering.

Typewriting problems in addressing envelopes, writing business, letters, tabulation, manuscript writing, and legal document writing.

**Business Administration 113E — Personal Finance (3-0)** Topics studied include inflation, tax problems, insurance, annuities, credit, home ownership, bank accounts, and investments.

Prerequisite: Instructor's consent.

**Business Administration 113P — Business Principles (3-0)** A course to study the mathematical principles that are used most often in ordinary business operations. Applications of all the principles in learning to operate office machines. Specific office machines used are the rotary calculator, the printing calculator, and the posting machine.

**Business Administration 123 — Secretarial Accounting (3-0)** A study of the fundamentals of double-entry bookkeeping and their direct application to various business and professions — insurance, law, service operations, medicine, retail stores, and corporations — including the analysis of accounts and the preparation of accounting statements.

**Business Administration 213L — Business Law (3-0)** Fundamentals, contracts, agency, negotiable instruments, property, and real estate. General principles involving law or bailments, sales, conditional sales, agency, negotiable instruments as they appear in actual cases illustrating practical business problems.

**Business Administration 213R — Real Estate Appraisal Principles and Practices (3-0)** Fundamental principles of real estate transfers; emphasizing contracts of sale, deeds, abstracts, leases, options, taxes, liens, financing, and market conditions. Also basic consideration of real property appraisal.

**Business Administration 223F — Executive Secretaryship (2-3)** A course which analyzes the many diversified responsibilities of an executive secretary as an office supervisor.

This study emphasizes secretarial alertness to office problems, as well as the awareness of modern techniques in office management, case studies of secretarial procedure in the different business organizations, and the application of business ethics and office etiquettes.

This course is primarily designed for those sophomore secretarial students who have credit for college secretarial practice (B. A. 113F and B. A. 123F) and advanced college shorthand (B. A. 214S and B. A. 224S) during the freshman year.

Other students may be admitted with consent of the business faculty.

**Business Administration 214S-224S — Advanced Shorthand and Office Procedure (3-3-2)** Continued study and review of the principles of shorthand. Emphasis on speed building and transcription.

In the second semester emphasis is on taking dictation at very high rates of speed. Dictation is given in the legal, medical and other technical fields as well as general office routines.

**Business Administration 214-224—Principles of Accounting (3-3)** The principles of accounting for a single proprietorship organization. A study of the accounting equation, business transactions, business papers, ledgers, books of original entry, classifications and interpretation of accounts and statements, valuation accounts, accrued and deferred items, and the accounting cycle.

Second Semester—Accounting for partnership and corporate business enterprises. A study of the characteristics of each organization, formation, dissolution, and liquidation.

**Business Administration 213F — Business and Industrial Psychology (3-0)** The psychological factors operating in business and industry. Employment procedures, personnel testing, attitude analysis, motivation, morals, advertising, and consumer market opinion and motivation research.

**Business Administration 213I — Survey of Insurance (3-0)** A general introductory course dealing with the theory and practice of insurance and its economic and social significance. A critical examination is made of the various types of life, fire, and automobile contracts available for protection against personal and business risks. In addition a brief study is made of State and Federal insurance plans, suretyship, and other casualty and property coverage.

**Business Administration 213N — Salesmanship (3-0)** A course dealing with the principles of personal salesmanship, with a study of methods, problems, and routine duties of a salesman.

**Business Administration 213T - 223T — Advanced Typewriting Problems (1-2-2)** This course includes business reports, business

documents, legal documents, tabulation, statistical material, manuscripts, cutting stencils, various forms of business letters and a continued emphasis upon typing speed and efficiency.

Prerequisite: Business Administration 114T - 124T.

## Chemistry

**Chemistry 113 — Introductory Chemistry (3-2)** Non-technical course which meets the needs of those who do not expect to specialize in science, engineering or medicine. The course content is devoted to a survey of the principles of inorganic chemistry.

**Chemistry 123 — Introductory Chemistry (3-2)** A continuation of Chemistry 113. Subject matter includes an introduction to the fields of organic and biochemistry. Prerequisite: Chemistry 113.

Note: Chemistry 113-123 cannot be substituted for Chemistry 114-124 in meeting prerequisites in scientific curricula. Chemistry 113-123 and Chemistry 114-124 may not both be counted for credit.

**Chemistry 114 — General Chemistry (3-4)** A course serving the prerequisite requirement for engineering, medicine, dentistry, and other professional courses requiring advance work in chemistry. Lectures, demonstrations, and laboratory work sufficient for an understanding of fundamental principles. Laboratory work includes introduction to quantitative and volumetric analysis.

**Chemistry 124 — General Chemistry (3-4)** A continuation of Chemistry 114, requiring study of equilibrium, acid-base concepts, and qualitative analysis. Prerequisite: Chemistry 114.

**Chemistry 214 — Organic Chemistry (3-4)** An introduction to the chemistry of the compounds of carbon for science majors. The reactions of aliphatic and aromatic compounds are considered in terms of carbonium ion, carbanion and free radical reaction mechanisms. Stereometry and molecular conformations are also considered. Laboratory work offers opportunity for the student to familiarize himself with reactions, properties, and relations of typical organic compounds. Prerequisite: Chemistry 124.

**Chemistry 224 — Organic Chemistry (3-4)** A continuation of Chemistry 214, requiring study of carboxylic and sulfonic acids, amines, ethers and phenols. Carbonyl and polyfunctional compounds are also considered. Prerequisite: Chemistry 214.

## Dental Hygiene

**Dental Hygiene 114 — Oral Hygiene (4-0)** A study of the factors which contribute to oral health including the accepted methods of preventing caries and periodontal disease.

**Dental Hygiene 111 — Medical and Dental Emergencies (1-0)** Includes the knowledge and techniques necessary for the student to secure the standard Red Cross Certificate. Emphasis will be placed on the first aid treatment of emergencies which may arise in the dental office.

**Dental Hygiene 113 — Oral Anatomy and Physiology (2-4)** Detailed study of the anatomy of the teeth, tissues and organs of the oral cavity, related structures; innervation and blood supply of the head; form and function of the teeth (through drawing and carving).

**Dental Hygiene 111A — Dental Specialities (2-0)** Provides a synopsis of the different specialized areas comprising dentistry.

**Dental Hygiene 122 — Radiology Theory (1-2)** The theory and technique of oral radiography, anatomical landmarks, arrangements and care of darkroom equipment and solutions, and proper processing.

**Dental Hygiene 124 — Dental Hygiene Technique and Clinic (3-6)** Instrumentation and clinical procedures in oral prophylaxis and topical application of fluorides. Lectures and demonstrations, including practice on manakins and care and use of instruments. Lectures to aid in a further understanding of a dental practice with on-the-job training sterilization, care and use of instruments will be emphasized.

**Dental Hygiene 223 — General and Oral Histology (2-2)** A study of the normal and abnormal histology of the oral cavity with special emphasis on the hard and soft tissues relating to the teeth. Correlation of histopathological changes and clinical manifestations of oral lesions to the principles of biopsy, handling of biopsy materials and maintenance of records are included.

**Dental Hygiene 211 — Dental Material (1-0)** A general study of the sources, properties, uses, and techniques of manipulation of the materials commonly used in dentistry.

**Dental Hygiene 212 — General and Oral Pathology (3-0)** A study of the fundamental principles of disease processes. In-

cludes histopathology of the more common diseases affecting the body as well as the pathological conditions of the teeth and their supporting structure.

**Dental Hygiene 211A — Peridontia (2-0)** A course designed to consider periodontal disease which may confront a dental hygienist. This includes the rationale for the prophylaxis, the reasons for good oral hygiene and identifications of some lesions seen in oral cavity.

**Dental Hygiene 214 — Dental Hygiene Clinical Practice I (2-8)** Continued applications of principles its clinical practice of dental hygiene. Skills in giving oral prophylaxis, topical applications of fluorides, and patient education are developed. Application of oral radiography technique is developed with patients.

**Dental Hygiene 221A — Personal and General Community Health (1-0)** A study of personal health habits and traits, and the environmental factors related to these, with special emphasis on the individuals responsibility to these, and to the health of the community. A study of the theory, methodology, and application of principles of public health with emphasis on the role of the dentist and dental hygienist in a public health program.

**Dental Hygiene 222A — Dental Health Education (2-0)** A study of methods and materials used in teaching dental health, including educational psychology and philosophy, to the laety in schools and communities, and especially to patients in the practice of dental hygiene.

**Dental Hygiene 221B — Pharmacology (1-0)** A study of the actions and uses of drugs and anesthetics with emphasis on those used in dentistry.

**Dental Hygiene 221C — Children Dentistry (1-0)** A study of the preventive and therapeutic aspects of dentistry for children, child psychology, and management of the child in the dental office.

**Dental Hygiene 222B — Ethics, Jurisprudence and Office Management (2-0)** Dental ethics, and legal principles for the practicing dental hygienist. Lectures in office management and procedures.

**Dental Hygiene 224 — Dental Hygiene Clinic II (2-10)** Continuation of Dental Hygiene — Clinical Practice I.

## Drafting

**Drafting 111 — Blueprint Reading (1-0)** Interpretation of blueprints with emphasis on the obtaining of information from mechanical and electronic blueprints for Petroleum Technology majors.

**Drafting 113A — Engineering Drawing (2-4)** A course designed to cover the basic requirements for an engineering degree with extra emphasis put on drafting skills. The material covered includes lettering, instruments and their use, applied geometry, orthographic freehand and instrument drawings, auxiliary views, sections and conventions, pictorial drawings, dimensions and notes, threads and fasteners, working drawings, charts, graphs and diagrams. Term project — a set of working drawings of a piece of equipment having three or more parts.

**Drafting 113B — Freehand Drawing (2-4)** A course designed for the draftsman to develop the skill to do good orthographic and pictorial freehand drawings. Air brush techniques are included. Several types of pictorial drawings will be studied and practiced, such as Axonometric, (Trimetric, Diametric, Isometric), Oblique (Cavalier, Cabinet, and projection) Perspective (1, 2, and 3 point perspective and the measuring point method). Pictorial sectional and exploded drawings will be stressed along with product illustration.

**Drafting 123A — Architectural Drawing (2-4)** A course in home planning with emphasis on details. A complete set of plans for a one-story home is required with Specification Requirements.

**Drafting 123B — Mechanical Drawing (2-4)** A second course in mechanical drawing. Further study into fundamentals, such as intersections, development, keys, rivets and springs, gears and cams. Added emphasis is given the appendix as applied to making industrial drawings to acquaint the student with the industrial practices in making details, assemblies and isometric drawings.

**Drafting 213A — Machine Drawing (2-4)** Machine drafting, including details and assemblies of machine parts, jigs and fixtures, with emphasis on the use of American Standards. Templates and industrial drafting equipment. Additional time is spent on drafting in the welding, structural, and piping fields.

**Drafting 213D — Descriptive Geometry (2-4)** A course involving

the principles and application of orthographic projection; space relations of points, lines, and surfaces; the true length of lines in space; space surfaces and intersections and developments; intersections of curved surfaces, cylinders, cones, and spheres; highway, geology and mining problems.

**Drafting 213P — Piping Drafting (2-2)** Piping diagrams, fabrication details.

**Drafting 223B — Map Drafting (2-4)** Map Drafting emphasizing lettering, symbols, scales, lease maps, township maps, highway maps and computations, pipe lines, mapping by coordinates and from surveying notes. Most of the work is in ink, using paper, linen and some of the plastics. Same work is done in topography and aerial maps using Edgar Tobin's "Maps for the Oil Industry" as a text. Includes field problems with practical application of surveying instruments. Use of the planimeter, calculator, slide rule and computer calculations.

**Drafting 223A — Manufacturing Design, Materials and Processing (2-4)** This course is designed to include the theory of design, the study of the properties of metals, plastic, and the manufacturing and processing of articles by casting, forming, and machining. A part of the course includes cost analysis covering manufactured articles as well as the building industry.

**Drafting 223C — Plane Surveying (2-4)** The use and care of surveying instruments, plane surveys with Transit, and tape, profiles and topography with level, computing cross sections, mapping from notes and computations, using coordinates, and map making with the plane table.

**Drafting 223E — Electronic Drafting (2-4)** A course designed to cover the basic requirements of electronic drafting used in industry. The material covered includes theory of electronics, schematic drawing and printed board design.

## Earth and Space Studies

**Geology 114 — General Geology (3-3)** Physical geology processes modifying the earth's surface; materials and features of the earth's crust. Laboratory work in cartography, mineralogy, and petrology.

**Geology 124 — General Geology (3-3)** Historical geology; the history of the earth through geologic times as revealed by rocks

and fossils; the origin and development of plant and animal life. Laboratory work in paleontology.

Prerequisite: Geology 114.

**Astronomy 113 — A Survey of Astronomy (3-0)** The main features of the known universe and the principles involved in their discovery. A non-mathematical survey recommended for all students.

**Astronomy 123 — A Survey of Astronomy (3-0)** A continuation of Astronomy 113.

**Meteorology 113 — Meteorology (3-0)** The science of Meteorology presented concisely and systematically in its present state of development. The primary purpose is to set forth the facts and principles concerning the behavior and responses of the atmosphere.

**Geology 213 — Mineralogy (2-8)** Introductory course in the study of minerals, including elements of crystallography; determination of the common minerals by their physical properties.

Prerequisite: Trigonometry, Geology 124, and Chemistry 114.

**Geology 223 — Petrology (2-4)** Origin, mode of occurrence, and determination of the common types of igneous, sedimentary, and metamorphic rocks.

Prerequisite: Geology 213.

**Geology 223A — Invertebrate Paleontology (2-4)** Invertebrate, phyla; sponges, coelenterate, echinodermata, brachiopods, mollusks, and arthropods, stratigraphic and evolutionary paleontology.

Prerequisite: Geology 114-124. Two lectures and four laboratory hours a week.

**Geography 213 — Economic Geography (3-0)** A study of the relationship of man to his environment; problems of production, manufacture, and distribution of goods in the various regions of the world.

**Geography 223 — World Geography (3-0)** The earth, its climatic regions; the relation of human activities to physical environments; major cultural divisions and selected regions and countries.

## Economics

**Economics 213 — Principles of Economics (3-0)** An examination of fundamental economic concepts and principles.

Prerequisite: Sophomore standing recommended.

**Economics 223 — Economic Problems (3-0)** A study of contemporary economic issues and problems.

Prerequisite: Sophomore standing recommended.

## Education

**Education 113 — Introduction to Educational Psychology (3-0)**

An introductory study of mental life and the psychological principles underlying motivation, behavior, individual differences, and the learning processes.

**Education 123 — Introduction to Education (3-0)** A brief survey of the general field of education brought out through a study of the evolution of the present-day public school and its practices.

## Electronics

**Electronics 113 — DC and AC Theory and Circuits (3-0)** A basic course in direct and alternating current. AC and DC circuit parameters, Ohm's law, Kirchhoff's law, magnetism, vector algebra, circuit laws and theorems, reactive components, three phase circuit characteristics, power measurement, resonance, and filters.

**Electronics 113A — Power Distribution (3-0)** A course in power distribution, generating and transmission systems, load center distribution, substation operation, system and line protection fault detectors, and electric utility practices.

**Electronics 113L — Basic Electricity Laboratory (0-6)** The laboratory consists of tests and measurements of electrical circuits at low and medium frequency. Familiarization of component parts. Voltage and current measurement. Construction and testing of M derived and Constant K filters. Tuned resonant circuits. Measurement of power in AC and DC circuits. Operation of motors and generators, Resistive and reactive networks. Potential transformers, and current transformers.

**Electronics 123 — Industrial Electronics (3-0)** A thorough study of vacuum tube circuits. Power amplifiers, voltage amplifiers,

audio and radio-frequency amplifiers. Compensating networks, gain problems and high and low frequency response. Detection of Radio and Picture carrier signals. Design problems for audio and video amplifiers. Intermediate frequency amplifier and noise reduction circuits.

**Electronics 123A — Automatic Controls (3-0)** A study of automatic controls and control systems. Time delay relays and switches, power switches, magnetic switches, meters, and application of these devices to control systems. Operation and control of motors, generators, alternators, servomechanisms and other positioning devices.

**Electronics 123 B—Electrical Instruments and Measurements (3-0)** The mechanics and the science of electrical measurements are given thorough treatment in the course. Starting with basic indicating instruments and continuing through complex integrating devices, both the operating principles and the "hardware" are studied. Range extending devices, rectifiers, bridges, and transformers are used in the laboratory to construct metering systems for typical job requirements. Operation, repair and calibration of measuring instruments. Mathematical analysis is used throughout the course with extensive use of vector algebra and trigonometry.

Pre-requisite: Electronics 113

**Electronics 123 C — Electrical Power Systems (3-0)** A study of the design, operation and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protection devices. System load analysis, rates, and power economics are studied.

Pre-requisite: Electronics 113

**Electronics 123 D — Electrical Installation Planning (3-0)** Methods and materials used in electrical installations and problems encountered in electrical construction work. Wiring materials including those in the National Electric Code.

Pre-requisite: Electronics 113

**Electronics 123 E — Operating Problem Analysis (3-0)** A study is made of the proper procedures to be used in testing for troubles of electrical systems and their correction. The methods used in setting up and supervising a program of preventive maintenance, trouble-shooting, equipment receiving, data recording, and cost accounting are also studied.

Pre-requisite: Electronics 113

**Electronics 123L — Basic Electronics Laboratory (0-6)** Tests and measurements of standard, triode, and pentode amplifier circuits. Voltage gain and power gain measurements. Impedance matching, Coupling circuits. Application of amplifier to control devices. Construction of photoelectric amplifier and counters.

**Electronics 213 — Vacuum Tubes and Semiconductors (3-0)** A review of vacuum tube circuit problems, an introduction to solid state theory through a study of semiconductor diode, transistors, silicon controlled rectifiers, unijunction field effect transistors, tunnel diodes, photo diodes, and circuit problems.

**Electronics 213L — Industrial Electronics Laboratory (0-6)** The laboratory covers the design and construction of resistance coupled and transformer coupled amplifiers. Experiments with square wave and pulse oscillators. Transistor and vacuum tube amplifiers, and oscillator circuits. Circuit tracing techniques. Use of the oscilloscope in analyzing wave form and pulse voltages.

**Electronics 223 — Industrial Instrumentation Fundamentals (3-0)** Instrument application. Energy and force systems, heat transfer. Electrical and mechanical transducers, liquid and gas flow measurements, liquid level measurements, temperature measurements. Potentiometric devices, indicating and registering equipment, humidity measurements, specific gravity, measurements with radio isotopes, ph measurements, telemetering.

**Electronics 223L — Industrial Instrumentation Laboratory (0-6)** Construction and testing of simple control systems. Automatic motor controls, automatic timers, photo-electric systems. Radio control systems, ton signaling, servo and synchro systems. Computer circuits.

## Electronic Data Processing

**Electronic Data Processing 113 — Electronic Data Processing (3-3)** An over-all survey of the function of IBM Unit Record equipment to include 024, 082, 085. Control panel wiring is included in this course. Rental Fee \$15.00.

**Electronic Data Processing 123 — Introduction to the Computer (3-3)** An introduction to computer concepts basic to all computer systems. Console operation of the NCR Century 100 and elementary programming techniques using the Neat-3 and RPG Languages. Rental fee \$15.00.

Prerequisite: Electronic Data Processing 113 or consent of the instructor.

**Electronic Data Processing 123A — Introduction to Computer (3-0)** An introduction to computer concepts basic to all computer systems, such as magnetic storage, number systems, internal operation, information retrieval.

**Electronic Data Processing 211 — Computer Language (1-0)** An introduction to programming to familiarize the student with computer approaches to solving mathematical and business problems. Emphasis on solution of problems through use of Fortran Language.

**Electronic Data Processing 213 — Computer (3-3)** A study of the basic programming techniques and actual program writing for the NCR Century 100 and IBM 360 computer systems. R.P.G. and Fortran languages are studied. Rental fee \$15.00.

Prerequisite: E.D.P. 123 or consent of the instructor.

**Electronic Data Processing 213A — Systems and Procedures (3-0)** Systems fundamentals, machine indoctrination, and essential operations are presented with the view of operating in our conversion to an EDP environment.

Prerequisite: Accounting 224 or consent of the instructor.

**Electronic Data Processing 223 — Computer (3-3)** A study of programming techniques using Cobol and R. P. G. languages. Sophisticated program writing for the NCR Century 100 computer systems. Rental fee \$15.00.

Prerequisite E.D.P. 213 or consent of the instructor.

**Electronic Data Processing 223A — Systems and Procedures (3-0)** A continuation of EDP 213A, covering specialized techniques allied with integrated data processing and data processing applications for accounting systems.

Prerequisite: EDP 213A or consent of the instructor.

## English

**English 113D — Developmental Reading (3-3)** This course emphasizes the development of basic comprehension skills in reading. It is designed for students who desire increased reading skills. Training is given in overcoming the weaknesses of individual students and in increasing the speed of reading.

**English 113 — Composition and Rhetoric (3-0)** The development of the student's ability to think for himself and to express his thoughts in correct, clear language. A study of literature in order to encourage reading.

**English 123 — Composition and Rhetoric (3-0)** Further training in thinking and the ordering of thoughts by the study of the types of composition. Prerequisite: English 113.

**English 213 — English Literature (3-0)** A survey course using selections from an anthology to emphasize trends in English literature. Advanced composition.

Prerequisite: English 123.

**English 223 — English Literature (3-0)** The survey of English literature. Advanced composition. Prerequisite: English 123.

**English 223B — Technical Report Writing (3-0)** Techniques of verbal efficiency in the various media of engineering and scientific communications, with stress on report and research-report preparation, letters and resumes. Required in technological and engineering plans.

Prerequisite: English 113.

**English 213N — Great Books (3-0)** Greek plays, Roman lives (from Plutarch), Dante's Inferno, Shakespeare's King Lear, a Russian novel, twenty English poems, a modern novel.

## Foreign Language

**French 113-123 — Conversational French (3-0)** For students who have never studied French. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

**French 113A — Readings in French (3-0)** Standard elementary grammar with oral and reading exercises. A course to prepare students to read and translate material relating to various sciences.

**French 123A — Readings in French (3-0)** Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

**French 114 — Beginner's French (3-2)** Drill in the pronunciation and the grammar of the French language with written exercises, dictation and conversation in French.

**French 124 — Composition and Reading (3-2)**

Prerequisite: French 114 or two admission units in French from high school.

**French 213-223 — Oral Expression, Reading & Composition (3-0)**

Outside readings assigned from French masters. Prerequisite: French 124 or three or four admission units in French from high school.

**Spanish 113-123 — Conversational Spanish (3-0)** For students who have never studied Spanish. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

**Spanish 113A — Readings in Spanish (3-0)** Standard elementary grammar with oral and reading exercises. A course to prepare students to read and translate material relating to various sciences.

**Spanish 123A — Readings in Spanish (3-0)** Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

**Spanish 114 — Beginner's Spanish (3-2)** Drill in the pronunciation and the grammar of the Spanish language with written exercises, dictation and conversation in Spanish.

**Spanish 124 — Composition and Reading (3-2)**

Prerequisite: Spanish 114 or two admission units in Spanish from high school.

**Spanish 213-223 — Oral Expression, Reading & Composition (3-0)** Outside readings assigned from Spanish masters. Prerequisite: Spanish 124 or three or four admission units in Spanish.

**German 113-123 — Conversational German (3-0)** For students who have never studied German. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

**German 113A — Readings in German (3-0)** Standard elementary grammar with oral and reading exercises. Course to prepare students to read and translate material relating to various sciences.

**German 123A — Readings in German (3-0)** Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

**German 114 — Beginner's German. (3-2)** Drill in the pronunciation and the grammar of the German language with written exercises, dictation and conversation in German.

**German 124 — Composition and Reading (3-2)**

Prerequisite: German 114 or two admission units in German from high school.

**German 213-223 — Oral Expression, Reading and Composition**

**(3-0)** Outside readings assigned from German masters.

Prerequisite: German 124 or three or four admission units in German.

## Government

**Government 213 — American Government (3-0)** A functional study of the American constitutional governmental system, of the origins, developments and present-day problems of the national government, of the rights, privileges and obligations of citizenship.

Prerequisite: Sophomore standing.

**Government 223 — American State Government (3-0)** The nature, organization, and general principles of local government in the United States, with special attention to these forms in Texas; the judicial, executive, and administrative functions in federal and state government; financing governmental activities.

Prerequisite: Sophomore standing.

## History

**History 113 — A Survey of British history through 1660 (3-0)**

This course introduces the student to the successive developments in British history, institutions, and civilization. Lectures and reading assignments acquaint the student with the Anglo-Saxon legal system, the Norman Conquest, and Feudalism; the Medieval Church; the Development of Parliament; and emphasizes the emergence of Modern Great Britain and the Tudor and early Stuart periods.

**History 123 — A Survey of British history since 1660 (3-0)** Commencing with the Stuart restoration, this acquaints the student, through lectures and reading assignments, with the development of British democratic philosophy; the emergence of Britain as a world power in the seventeenth century; the loss of the first Empire; the fight for survival against Napoleon; the growth of the second Empire; Britain's decline as an imperial power; and traces the development of the modern liberal British state.

**History 113A — Western Civilization in Mediaeval Times (3-0)**

A standard western civilization - cultural development survey course in the cultural, political, and institutional development of the nations of Europe from antiquity to the renaissance.

**History 123A — Western Civilization in Modern Times (3-0)**

Continuation of History 113A. A standard western civilization - cultural development survey course in the cultural, political, and institutional development of the nations of Europe from the renaissance to modern times.

**History 213 — History of the United States (3-0)** A general survey of the history of the United States from the era of discovery through the Civil War.**History 223 — History of the United States (3-0)** A general survey of the history of the United States from Reconstruction to the present time.**History 223T — Texas History (3-0)** A history of Texas from the Spanish period to the present day. Stress is placed upon the period of Anglo-American settlement, the revolution, the republic, and the development of the modern state.

## Home Economics

**Home Economics 113A — Principles of Food Selection and Preparation (2-4)** Fundamental principles in the selection and preparation of foods; nutritive values; cost of foods.**Home Economics 123A — Meal Management (2-4)** For majors in Home Economics, hotel or restaurant management. Planning, managing, and serving meals suitable for family groups for all occasions. Selection and use of table appointments.**Home Economics 113B — Costume Design and Selection (2-4)** Fundamental principles of design and color applied to the selection and planning of appropriate dress. Emphasis on line, color, and texture in relation to the individual, with laboratory application.**Home Economics 113C — Textiles (2-2)** The study of fibers, fabrics, and finishes for application in choices of fabrics for clothing and home furnishings.**Home Economics 123B — Clothing (2-4)** Fundamental principles of selection and construction of clothing. Use and alteration of commercial patterns. Problems selected according to the ability and learning experience of the student.

**Home Economics 123C — Nutrition (2-2)** Fundamental principles of human nutrition applied to the individual, family, and community nutrition problems. Chemistry, physiology and economics of nutrition.

## Journalism

Selected Journalism majors have opportunities for professional experience with remuneration through Tyler newspaper and electronic news media.

**Journalism 113 — Mass Communications (3-2)** An introduction to journalism designed to give the student an understanding of the media of mass communications in modern society and the career opportunities in the field. Laboratory in print and electronic news writing: Two hours per week.

**Journalism 123 — Introduction to Advertising (3-0)** The course emphasizes the social and economic benefits as a medium of communication in print or electronic Journalism. Individual projects come from either the print or electronic media.

**Journalism 123P — Photojournalism (2-3)** A beginning course in photography teaching reporting with the camera. Basic instruction in black and white press photography with emphasis on 120 and 35mm cameras. Photographic picture composition, developing, and printing. Prerequisite: Journalism 113. Laboratory fee \$6.50.

**Journalism 213 — General Reporting (3-2)** Instruction and practice in interviewing and writing news stories: discussion of news values, news source, and principles of writing for newspaper, radio, television. Laboratory: two hours per week.

Prerequisites: Thirty hours college credit including at least a C average in freshman English. Credit in high school or college typing or registration in college typing.

**Journalism 223 — Editing (3-2)** Editing copy for accuracy, objectivity, and readability. Prerequisite: Journalism 113 or 213.

## Law Enforcement

**Law Enforcement 113 — Introduction to Law Enforcement (3-0)** The philosophy and history of law enforcement is studied. It includes a survey of police problems and crimes. Organization and jurisdiction of local, state and federal enforcement agencies and a survey of professional qualifications and opportunities.

**Law Enforcement 113A — Police Administration I (3-0)** The principles of organization, administration and functioning of police departments are studied. This includes personnel policies, operating division policies and command of the department as a whole.

**Law Enforcement 123 — Juvenile Procedures (3-0)** Juvenile criminal behavior will be studied to provide an insight into casual factors, precipitating forces, and opportunities for the commission of criminal or delinquent acts. The techniques, responsibilities, and capabilities of police organization in the area of delinquency prevention will be developed.

**Law Enforcement 123A — Patrol Operations (3-0)** The principles of organization, administration and the functioning of police patrols are studied. This includes responsibilities, techniques, problems and methods of operations and supervision.

**Law Enforcement 213 — Criminal Law (3-0)** This course covers a brief history and philosophy of modern law which includes the structures, definition and application of commonly used Penal Statutes and leading case laws. It also includes a review of the elements of crimes, laws of arrest, search and seizure.

**Law Enforcement 213A — Criminal Evidence and Investigation (3-0)** Theories and concepts of the investigator's role in modern criminal investigation are studied. Basic skills necessary in conducting an investigation, developing sources of information, the collection and preservation of evidence and preparation of reports are developed. The student examines the rules governing the admissibility of evidence as they affect the law enforcement officer in the administration of criminal justice. Rules of evidence, kinds and degrees of evidence are studied.

**Law Enforcement 223 — Traffic Management and Planning (3-0)** The student examines police responsibilities in traffic planning and investigation. Identifies police policies and procedures in education, engineering, and enforcement responsibilities. An analytical study of special traffic problems, motor vehicle laws and accident investigation techniques is conducted.

**Law Enforcement 223A — Criminal Evidence and Court Procedure (3-0)** Fundamentals of supervisory techniques and practices in modern organizations are covered. The human element in individual and group relationships is stressed. Police Supervision includes a review of personnel processes in law enforcement agencies and principles of teaching and conference leadership.

## Mathematics and Engineering

The Mathematics program in Tyler Junior College is especially designed to meet the varying needs, backgrounds and abilities of its students. Courses are arranged to cover the fields of technological applied mathematics, liberal arts, business and engineering.

Colleges and universities no longer allow college algebra and college trigonometry to apply toward a degree in engineering. In order for a student to follow a four year program for a degree in these fields, it is desirable that the student take analytic geometry (Mathematics 123A) and Calculus I (Mathematics 213) the first semester of the freshman year.

It is recommended that all engineering and mathematics majors, except those with an unusually strong background in high school mathematics, take college algebra and trigonometry during the summer prior to the first semester of the freshman year. This should be done to provide an adequate background for analytic geometry and calculus.

In order to help the student register for the appropriate mathematics courses, the following prerequisites have been established:

### **For Analytical Geometry (Mathematics 123A):**

1. Credit in College Algebra (Mathematics 113A) and Trigonometry (Mathematics 113B), or
2. A satisfactory score on the mathematics portion of the ACT examination.

### **For Calculus I (Mathematics 213):**

1. Credit in Analytic Geometry, (Mathematics 123A), or
2. Concurrent registration in Mathematics 123A with grades of B or better in both Mathematics 113A and 113B, or
3. A satisfactory score on the mathematics portion of the ACT examination and concurrent registration in Mathematics 123A.

The following plans tentatively show the courses which mathematics and engineering majors take during the two years at Tyler Junior College. In each case, Plan I is the preferred plan. Each student should see a faculty adviser to get an exact plan that will correlate with the curriculum of the senior college of his choice.

**PLAN I (Mathematics Majors)****1st Semester**

Mathematics 123A  
 Mathematics 213  
 English 113  
 History 213  
 \*Foreign Language 114  
 Physical Education

**3rd Semester**

Mathematics 223B  
 English 213  
 Government 213  
 Foreign Language 213  
 \*Physics 224A  
 Physical Education

**2nd Semester**

Mathematics 223A  
 English 123  
 History 223  
 Physics 124A  
 Foreign Language 124  
 Physical Education

**4th Semester**

Mathematics 223  
 English 223  
 Government 223  
 Foreign Language 223  
 \*Physics 214A  
 Physical Education

**PLAN II (Mathematics Majors)****1st Semester**

Mathematics 113A  
 Mathematics 113B  
 English 113  
 History 113  
 \*Foreign Language 114  
 Physical Education

**3rd Semester**

Mathematics 223A  
 English 213  
 Government 213  
 \*Science  
 Foreign Language 213  
 Physical Education

**2nd Semester**

Mathematics 123A  
 Mathematics 213  
 English 123  
 Physics 124A  
 Foreign Language 124  
 Physical Education

**4th Semester**

Mathematics 223 or  
 Mathematics 223B  
 History 223  
 Government 223  
 \*Science  
 Foreign Language 223  
 Physical Education

**PLAN I (Engineering Majors)****1st Semester**

Mathematics 123A  
 Mathematics 213  
 Engineering 112  
 Chemistry 114  
 English 113  
 Physical Education

**3rd Semester**

Mathematics 223B  
 History 213  
 Government 213  
 Physics 224A  
 English 213  
 Physical Education

\* See the catalog of the senior college to which you will transfer.

**2nd Semester**

Mathematics 223A  
 \*Engineering 213  
 \*Engineering 122  
 Chemistry 124  
 English 123  
 Physical Education

**4th Semester**

Mathematics 223  
 History 223  
 Government 223  
 Physics 214A  
 \*Engineering 223A  
 or English 223  
 Physical Education

**PLAN II (Engineering Majors)****1st Semester**

Mathematics 113A  
 Mathematics 113B  
 Engineering 112  
 Chemistry 114  
 English 113  
 Physical Education

**3rd Semester**

Mathematics 223A  
 \*Engineering 213  
 History 213  
 Government 213  
 English 213  
 Physical Education

**2nd Semester**

Mathematics 123A  
 Mathematics 213  
 \*Engineering 122  
 Chemistry 124  
 English 123  
 Physical Education

**4th Semester**

Mathematics 223  
 History 223  
 Government 223  
 Physics 214A  
 \*Engineering 223A  
 or English 223  
 Physical Education

## Engineering

**Engineering 112 — Engineering Drawing (2-2-2)** Lettering, free-hand and instrument drawings, shape and size description, pictorial drawings, charts and graphs, line value and lettering to be stressed throughout the course.

Two lectures, two hours of supervised drafting, and two hours of home work per week.

**Engineering 122 — Descriptive Geometry (2-2-2)** Auxiliary and oblique views, point, line and plane problems. Development, intersection, highway, geology, and mining problems with emphasis on line value and proper lettering throughout the course.

Two lectures, two hours of supervised problems, and two hours of home work per week.

**Prerequisite:** Engineering Drawing and Solid Geometry or Trigonometry.

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\* See the catalog of the senior college to which you will transfer.

**Engineering 213 — Engineering Mechanics (3-0)** Newton's laws, work-energy and impulse-momentum principles for particles; force resultants, introductory rigid body statics.

Prerequisite: Credit or registration for Mathematics 223A.

**Engineering 223A — Engineering Mechanics (3-0)** Newton's laws, work-energy, impulse-momentum principles for rigid bodies static and dynamic friction.

Prerequisite: Engineering 213 and Mathematics 223A.

**Engineering 223B — Strength of Materials (3-0)** Analysis of stress and strain; riveted and welded joints; flexure and deflection of beams, shafts, columns; physical properties of materials.

Prerequisite: Engineering 213 and Mathematics 223A.

## Mathematics

**Mathematics 113 — College Algebra (3-0)** A first course in the logical approach to algebra, primarily for liberal arts and business administration majors. This course includes: sets; number system; solution and graphing of first degree equations and inequalities; solution of systems of linear equations and inequalities; polynomials and factoring; quadratic equations and inequalities; relations and functions; exponents; radicals.

Prerequisite: One year of high school algebra and acceptable ACTP mathematics score or Mathematics 113L.

(Notice — A grade of C or better must be made to continue in Mathematics.)

**Mathematics 113A — College Algebra (3-0)** Designed primarily for engineering and mathematics majors, this course includes: sets; number system; exponents; relation and function; inverse functions; logarithms; quadratic functions; polynomials and elementary theory of equations; systems of equations; inequalities; mathematical induction; progressions; binomial theorem.

Prerequisite: One and one half years of high school algebra or equivalent.

**Mathematics 113B — Trigonometry (3-0)** Angular measure; functions of angles; derivation of formulas; identities; solution of triangles; equations; inverse functions; complex numbers.

Prerequisite: Mathematics 113 or registration in Mathematics 113A.

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\* See the catalog of the senior college to which you will transfer.

**Mathematics 113E — Applied Mathematics I (3-0)** Signed numbers; fractions; percentage, slide rule, and basic Algebra. For students in technological programs.

**Mathematics 113L — Fundamentals of Mathematics (3-0)** Designed for students who need a review of fundamental operations in mathematics but who do not intend to take sophomore level or higher mathematics. This course may not be used as a part of the requirements for a major in mathematics. Review of basic arithmetic and algebra with an introduction to trigonometry and logarithms.

**Mathematics 113T — Applied Trigonometry (3-0)** This course presents the concepts of trigonometry such as angular measure, function of the angles, solutions of triangles and equations. A course for students in technological programs.

**Mathematics 123E — Applied Mathematics II (3-0)** Ratio and proportion, logarithms, intermediate Algebra, solution of triangles by use of trigonometry, and vectors. For students in technological programs.

**Mathematics 113K — Finite Mathematics I (3-0)** A beginning course in topics from finite mathematics, with business applications. This course includes: logic; sets; relations and functions; linear equalities and inequalities; vectors and matrices; linear models; counting - permutations and combinations; and probability.

Prerequisite: Acceptable ACTP mathematics score or Mathematics 113.

**Mathematics 123K — Finite Mathematics II (3-0)** Topics in continuous mathematics, with business applications. This course includes: quadratic, exponential, and logarithmic graphs; sequences, limits, and summation; topics from analytic geometry; topics from calculus; continuity, maxima and minima, simple derivatives and integrals.

Prerequisite: Mathematics 113K.

**Mathematics 113G — Introduction to Modern Mathematics (3-0)** A study of the language and theory of sets; elementary symbolic logic, axiomatic theories; field of real numbers; algebraic structures.

**Mathematics 123 — Mathematics of Finance (3-0)** Simple and compound interest; equations of value; annuities; amortization and sinking funds; depreciation; bonds.

Prerequisite: Mathematics 113 or 113A.

**Mathematics 123A — Analytic Geometry (3-0)** Cartesian coordinates; the straight line; the circle, and conic sections; transformation of coordinates; polar coordinates; parametric equations; transcendental and higher plane curves.

Prerequisite: Mathematics 113A, 113B, consent of Mathematics department, or see introductory paragraph, Pages 77-78.

**Mathematics 213 — Calculus I (3-0)** Variables, functions and limits; differentiation of algebraic functions, with applications; differentials; mean value theorem; integration of algebraic functions, with applications, differentiation of transcendental functions with applications.

Prerequisite: Mathematics 123A, or see introductory paragraph, Pages 77-78.

**Mathematics 223A — Calculus II (3-0)** Methods of integration, with applications; improper integrals; indeterminate forms; vectors and curvilinear motion.

Prerequisite: Mathematics 213.

**Mathematics 223B — Calculus III (3-0)** Introduction to series, expansion of functions, hyperbolic functions, analytic geometry of three dimensional space, partial differentiation, multiple integration with applications.

Prerequisite: Mathematics 223A.

**Mathematics 223 — Differential Equations (3-0)** Equations of the first order and degree; linear differential equations; operational methods; special types of higher order equations; Laplace transforms; applications of differential equations.

Prerequisite: Mathematics 223A.

**Mathematics 223S — Programming for Statistics (3-0)** Instruction in programming the computer for solving various problems encountered in business (Fortran). Univariate analysis, measures of central tendency and scatter; index numbers; and analysis of time series. Materials fee, \$2.00.

Prerequisite: Six hours of College Mathematics.

## Mid-Management

**Mid-Management 113 — Salesmanship (3-0)** The basic principles of personal salesmanship are covered, with a study of methods, problems and duties of a salesman.

**Mid-Management 123 — Principles of Marketing (3-0)** A general analysis made of the social and economic aspects of distribution as found in business organizations. Included is a study of the marketing structure and functions, institutional problems, prices, advertising and products.

**Mid-Management 213 — Advertising and Sales Promotion (3-0)** The fundamental principles, practices and common media in modern advertising are introduced. Included are those activities that supplement both advertising and personal selling, such as sampling, displays, demonstrations and other kinds of effort that render them more effective.

**Mid-Management 223 — Retail Merchandising (3-0)** A study is made of the planning and supervision involved in marketing merchandise or service which will best serve to realize the marketing objectives of business. Included is the organization and operation of the retail store and an analysis of retail buying and merchandising procedures covering buying, receiving, pricing, credit and collections, sales promotion, display, inventory and control.

**Mid-Management 113A - 123A - 213A - 223A — Work Experience and Seminar (1-15)** Work Experience is open only to students enrolled in the Mid-Management Program. This provides actual work experience in the retail, wholesale, or service business field as a paid employee. The student, the employer and the program coordinator develop an individual program for each student. The student is evaluated by both the employer and the program coordinator. A weekly one hour seminar is held in conjunction with his job.

Three semester hours credit each semester for four semesters.

## Music

Courses are offered for three types of students:

1. Those who desire to pursue a professional career in music after completing a standard four-year music curriculum.
2. Those who desire to take individual private lessons in applied music.
3. Those who desire a cultural background in music.

### College Credit in Music

Students who receive college credit are required to meet all

admission requirements as listed on pages 18-19. Music majors, who have had no previous training in piano, are required, in addition, to pass a proficiency examination in piano.

Students who desire to take non-credit private lessons are not required to meet regular admission requirements.

The amount of credit is dependent upon the amount of laboratory hours per week decided upon at registration as follows:

1. **Preparatory work** in Applied Music is offered for beginning students and for students not sufficiently advanced to meet requirements for music major courses. College level students enrolling in preparatory courses may receive credit as follows:

- (1) One hour credit; one half-hour lesson, 6 hours practice weekly.
- (2) Two hours credit; two half-hour lessons, 10 hours practice weekly.

2. **Credit in Strings, Woodwinds, Piano and Brasses.**

One semester hour credit requires six hours laboratory per week.

Two semester hours credit requires ten hours laboratory per week.

Three semester hours credit requires thirteen hours laboratory per week.

Four semester hours credit requires sixteen hours laboratory per week.

3. **Credit in Voice.**

One semester hour credit requires six hours of laboratory per week.

Two semester hours credit requires nine hours of laboratory per week.

Three semester hours credit requires twelve hours of laboratory per week.

### Piano

**Music 112PP, 122PP, 212PP, 222PP — Preparatory Piano.** Elements of piano-forte playing; instruction material and exercises according to individual needs; from simple forms of scales and arpeggios; selected compositions from Bach, Beethoven, Clementi, Handel, Haydn, Kuhlau, Mozart, Schumann and others.

Admission by examination.

**Music 114P, 124P — Freshman Piano.** Major and minor scales and arpeggios studies from Cramer, Czerny, Bach. Three Part Inventions, French Suites, Mozart; Beethoven sonatas of moderate difficulty; suitable selections from Chopin, other composers of the romantic school.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

**Music 214P, 224P — Sophomore Piano.** Major and minor scales and arpeggios in all forms and rhythms; studies from Clementi, Czerny, Phillip, Bach, Well-tempered Clavichord, English Suites; Beethoven sonatas, Op. 2, Op. 10, Op. 26; allegro movement of a concerto; selected compositions from Chopin, Debussy, Mendelssohn, Schubert, etc.

Prerequisite: Completion of Freshman Piano or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

**Music 314P, 324P — Advanced Piano.** Major and minor scales in parallel and contrary motion, octaves, tenths, sixths, and double-thirds; all forms of broken chords; Bach Preludes and Fugues; Beethoven Sonatas, suitable concertos and concert repertoire; student required to play half-hour recital.

Prerequisite: Completion of Sophomore Piano or its equivalent. Two half-hour lessons and 18 hours minimum practice.

### Strings

**Music 112PVc, 122PVc, 212PVc, 222PVc — Preparatory Violoncello.** Establishment of position; selected studies from Dotzauer, Grutzmacher, and others; appropriate solos. Admission by examination.

**Music 112PBv, 122PBv, 212PBv, 222PBv — Preparatory Bass Viol.** Establishment of position; studies from Simandl, Book I; scales and bowing exercises.

Admission by examination.

**Music 112 PVi, 122 PVi, 212 PVi, 222 PVi — Preparatory Violin.** Principles and establishment of good position; simple scales and arpeggios; exercises from Auer, Kayser, Laoureaux, Sevcik, Wohlfhart; suitable selections from Bach, Beethoven, Corelli, Faure, Handel, Mozart, Vivaldi, and others.

Admission by Examination.

**Music 114Vi, 124Vi — Freshman Violin**

**Music 114VA, 124VA — Freshman Viola**

**Music 114Vc, 124Vc — Freshman Violoncello****Music 114BV, 124BV — Freshman Bass Viol**

All form of scales and arpeggios in extended range. Selected study material emphasizing various legato and staccato styles; selected solos from the classic and romantic schools of composition. Admission by examination.

**Music 214Vi, 224Vi — Sophomore Violin****Music 214VA, 224VA — Sophomore Viola****Music 214Vc, 224Vc — Sophomore Violoncello****Music 214BV, 224BV — Sophomore Bass Viol**

Three and four octave scales and arpeggios in various rhythms; selected advanced study material; suitable solos from classic, romantic and contemporary composers including works in the larger forms; ensemble literature.

Prerequisite: Completion of Freshman strings or its equivalent.

**Voice**

**Music 113Vo, 123Vo — Freshman Voice.** Elements of vocal culture—breath control, voice production, pure vowels, consonants; scales and arpeggios; vocalises—Concone, Panofka, Vaccai; the simpler songs in English and Italian.

Admission by examination.

**Music 213Vo, 223Vo — Sophomore Voice.** Technical development — the sustained tone of the old Italian bel canto, roulades, runs and trills; the simple opera and oratorio arias of Gluck, Handel, Mozart, Scarlatti; beginnings of German Lieder, English and American songs.

Prerequisite: Completion of Freshman Voice or equivalent.

**Woodwinds**

**Music 112C, 122C, 212C, 222C — Preparatory Clarinet.** Principles of posture, embouchure, articulation; elementary scales and arpeggios; graded studies and duets; selected simple pieces.

Admission by examination.

**Music 114C, 124C — Freshman Clarinet.** Etudes by Klose and Lazarus; major and minor scales, solos and duets.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

**Music 214C, 224C — Sophomore Clarinet.** Etudes by Langenus, Lazarus, Rose, and Voxman; major and minor scales, orchestral studies; transpositions; solo and ensemble literature.

Prerequisite: Completion of Freshman Clarinet or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

**Music 112S, 122S — Freshman Saxophone.** Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to Calliet Method, Book II; Rubank, Selected Studies, Klose-Derigny. Complete Method. Representative Solos.

Prerequisite: Admission by examination. Two half-hour lessons and 10 hours minimum practice weekly.

**Music 212S, 222S — Sophomore Saxophone.** Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to Ferling, 48 Etudes, Rubank, Selected Studies; Klose-Derigny, Complete Method. Representative Solos.

Prerequisite: Music 122S or the equivalent. Two half-hour lessons and 10 hours minimum practice weekly.

### Music Theory

**Music 111T, 121T — Elementary Ear Training and Sight Singing (2-0)** Rhythmic, melodic, and harmonic dictation in the major and minor modes; sight singing in the treble and bass clefs. Must be taken concurrently with Music 113T, 123T respectively.

Required of music majors.

**Music 113F — Foundations in Music (3-0)** This course involves the study of examples of great works constituting our musical heritage. Emphasis will be placed on the development of individual aesthetic discrimination. Where possible the relationship between the arts will be demonstrated. These goals will be accomplished through listening to, viewing, and discussing great works of music, and the techniques and motivations underlying their creation in the societies from which they came.

**Music 113T, 123T — Elementary Harmony (3-0)** The study of chord building and chord connection including keyboard harmony; triads and their inversions, cadences, modulations to related keys, simple non-harmonic tones, seventh chords, original part-writing exercises. Must be taken concurrently with Music 111T, 121T respectively.

Prerequisite: Ability to read simple music notation. Required of music majors. Chorus is required of all elementary harmony enrollees.

**Music 113L, 123L — Introduction to Music (3-0)** A general survey of the development of the art of music designed to provide a basic understanding of the principal periods and styles of music literature; origins, folk music, plainsong, vocal and instrumental forms, elementary acoustics, biographical sketches and bibliography.

No prerequisites; open to non-music majors. Required of music majors.

**Music 211T, 221T — Advanced Ear Training and Sight Singing (2-0)** Continuation of dictation and sight singing studies, including the C clefs, modulation, and chromatic intervals. Must be taken concurrently with Music 213T, 223T respectively.

Prerequisite: Music 121T. Required of music majors.

**Music 213T, 223T — Advanced Harmony (3-2)** A further study of harmony and an introduction to counterpoint; the ninth, eleventh and thirteenth chords, chromatically altered chords, modulation to distant keys, the decorative material of harmony; a survey of the five species. Must be taken concurrently with Music 211T, 221T, respectively.

Prerequisite: Music 123T. Required of music majors. Chorus is required of all advanced harmony enrollees.

### **Musical Organizations**

**Music 112B, 122B — Band (1-4)**

**Music 212B, 222B — Band (1-4)**

The official Apache Band, open to any student who has had suitable training. Three hours per week.

**Music 112Ch, 122Ch — Chorus (1-3)**

**Music 212Ch, 222Ch — Chorus (1-3)**

A chorus in choral singing organized for the purpose of becoming familiar with the more important works of vocal ensemble. Open to students by audition. Three hours per week.

**Music 113O, 123O — Symphony Orchestra**

**Music 213O, 223O — Symphony Orchestra**

Open to advanced instrumental students. Members are given practical training in professional orchestral routine in the East Texas Symphony Orchestra.

Admission by audition. Four hours per week.

## Nursing

**Nursing 112 — Introduction to Nursing (2-0)** This course is designed to assist the student in her adjustment to college and to the profession of nursing. It includes: a survey of the historical development of nursing from its conception to the modern times, with special consideration of contemporary movements; a discussion of nursing organizations; career opportunities; and professional relationships with emphasis placed on the qualifications considered essential for effective nursing.

**Nursing 122 — Introduction to Nursing (2-0)** A continuation of Nursing 112 for the advanced student.

**Nursing 133 — Fundamentals of Nursing (2-2)** Fundamentals of Nursing is designed to serve as a foundation for nursing practice. Material and experiences are planned to aid the students in developing ideals, attitudes, knowledge and skills which are basic to comprehensive nursing care. The student is given the opportunity to contribute, as a team member, to the planning and the providing for comprehensive care. Identifying patient needs and planning the care of the total patient are stressed. Concepts of mental health and interpersonal relationships are introduced to the student in order for him to gain a better understanding of himself and others. The value of good communication techniques are also emphasized. The student must learn not only how to perform common techniques, but also when to perform them and how to modify them in individual patient-nurse situations.

**Nursing 143 — Fundamentals of Nursing (2-2)** A continuation of Nursing 133.

**Nursing 214A — Medical Nursing I (2-10)** This introductory course is designed to assist the student in becoming familiar with medical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information and trends applicable to most medical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical systems of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

**Nursing 224 — Community Aspects of Nursing (3-2)** This course is designed to help the student develop a better understanding of man's behavior and how this relates to illness and health. Emphasis is placed on the community resources and nursing services available to the patient and the principles and methods used to improve health in the community. A concurrent clinical laboratory practice is provided through an observation period at the Tyler-Smith County Health Department and through laboratory experience in the emergency departments of local hospitals.

**Nursing 214B — Surgical Nursing I (4-10)** This introductory course is designed to assist the student in becoming familiar with surgical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information and trends applicable to most surgical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical system of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

**Nursing 225 — Introduction to Operating Room Nursing (3-10)** This course is an introduction to operating room technique, designed to equip the student with that knowledge necessary to be able to function at a student level in the operating room. The student participates in a very vital process relating to surgical nursing and aids the patient in receiving that care necessary to restore his health, whenever possible. A major emphasis is the knowledge and skill necessary to provide safety to the patient while in the operating room. Concurrent laboratory practice is provided with student rotation through the operating rooms of a community hospital.

## Petroleum Technology

**Petroleum Technology 113 — Petroleum Development (3-0)** Exploration methods, principles of oil field development, spacing of wells, rotary and cable tool drilling methods, drilling fluids, directional drilling, oil field hydrology, well completion practices.

**Petroleum Technology 112A — Rotary Drilling Fluids (1-3)**

Testing methods, determining drilling fluid characteristics, drilling fluid problems, use of special drilling fluids, laboratory exercises consisting of practice in altering the properties of fresh water and special drilling fluids for drilling through troublesome zones with the rotary system.

**Petroleum Technology 112B — Drilling Equipment Field Laboratory (2-2)** Trips to examine different types of drilling equipment in actual operation in the field. Also trips to service companies to study their drilling tools.**Petroleum Technology 121 — Oil Field Records (1-1)** A study of records kept by oil companies and reports made within companies and to the railroad commission.**Petroleum Technology 123 — Production Methods (3-0)** Methods of production of oil, including lease layout and operation, operation of treating equipment, well stimulation and work over.**Petroleum Technology 122A — Production Equipment Field Laboratory (2-2)** Trips to examine different types of production equipment and treating equipment in actual operation and gas lift.**Petroleum Technology 213 — Introduction to Petroleum Industry (3-0)** General study of the industry, including history of the industry, chemistry of petroleum, its occurrence in nature and its importance in the world economy, leasing and royalty exploration, drilling and production methods, conservation, transportation and refining, economics of the oil industry.**Petroleum Technology 212A — Well Logging Methods (2-0)** A study of theories of electrical, micro-electrical radiation, optical chemical, and mechanical well logging methods and application of these theories, field examples and problems.**Petroleum Technology 213A — Petroleum Laboratory Methods (2-3)** Tests made in the oil industry. Emulsion breaking, field tests made on crude oil, elementary refinery tests, corrosion tests, and lubricating oil tests and subsurface laboratory methods.**Petroleum Technology 222 — Planetable Surveying for Geophysics (1-3)** Use of the planetable and alidade in surveying as applies to use by geophysical party.**Petroleum Technology 222C — Hydraulics for Petroleum Tech-**

**nologists (2-0)** Hydraulics in drilling, in oil pipelines, and in artificial lift.

**Petroleum Technology 222B — Geophysical Methods (2-1)**  
Theory of geophysical methods; one complete problem in Seismic coverage of an area.

**Petroleum Technology 222A — Natural Gas Production (2-0)**  
Field handling of natural gas, study of methods, equipment technology of natural gas.

## Pharmacology

**Pharmacology 114 (4-1)** This course is designed to help the student develop an understanding of drugs, their administration, uses, effects and side effects. Emphasis is placed on classes of drugs as they are used in the various body systems and the nursing care needed during drug therapy.

This course also assists the student to become proficient in accurately calculating dosages and/or preparing correct solutions for medication administration.

## Photography

**Photography 123 — Basic Photography (2-4)** The basic techniques, theory and practice of black and white photography. Study of exposure, development and printing, photographing of technical activities and equipment included with emphasis on composition.

Prerequisite: Journalism 113 or Technical Illustration 113A.

## Physical Education

**Physical Education 111, 121, 211, 221 — Physical Training for College Men (0-2)** Includes such activities as calisthenics, isometrics, karate, football, basketball, volleyball, track, tennis, softball, and other physical fitness activities.

**Physical Education 111A, 121A, 211A, 221A — Physical Training for College Women (0-2)** Physical activities for women including calisthenics, basketball, volleyball, table tennis, tennis, archery, tap dancing, badminton, etc.

**Physical Education 111B — Basketball and Softball (0-2)** A course for women physical education majors offered spring semester odd numbered years.

**Physical Education 111C — Speedball and Volleyball (0-2)** A course for women physical education majors offered fall semester even numbered years.

**Physical Education 111D — Badminton and Archery (0-2)** A course for women physical education majors offered spring semester even numbered years.

**Physical Education 111E — Tennis (0-2)** A course for women physical education majors offered fall semester odd numbered years.

**Physical Education 111T - 121T - 211T - 221T — Advanced Tennis (0-2)** A course for men and women desiring to participate in inter-collegiate tennis. Admission by consent of the instructor.

**Physical Education 113C — Art of Daily Living (3-0) (Women)** A course designed to place emphasis on the needs and activities of the individual student to assist in making proper adjustments. The fundamental aim is to develop self-assurance through knowledge that one's health, appearance, clothes, styling, make-up, and posture are correct. Students are given personalized instruction with respect to their own problems. By means of lectures, demonstrations, practice, and opportunities to perform in public, an effort is made to develop in the student greater poise and alertness. Instruction includes techniques for balance and control of movement, selection and care of clothing.

**Physical Education 123C — Art of Daily Living (3-0) (Women)** A continuation of Physical Education 113C.

**Physical Education 113 — Methods (2-2)** The organization and administration of physical education in the public schools. The course of study for physical education as recommended by the Texas State Department of Education for high schools is used as a basis for study. Laboratory periods are devoted to actual problems in the field.

**Physical Education 123 — Methods (2-2)** A continuation of Physical Education 113 with special attention given to problems in the physical education field.

**Physical Education 113A — Theory of Football and Track (3-0)**

**Physical Education 123A — Theory of Basketball and Baseball (3-0)**

**Physical Education 213 — Health and Hygiene (3-0)** A study of personal and community health. A study is made of causa-

tive factors of diseases, their means of transmission and prevention.

**Physical Education 223 — Sports Understanding (3-0)** This course is especially designed for those who wish to develop a complete understanding of sports both major and minor. Rules, terminology, and finesse are studied.

**Physical Education 213C — Appreciation of Dance (3-2) (Women)** Basic fundamentals and interpretations of dance; the principles and applications applied to the interpretation of modern and conventional dance.

**Physical Education 223C — Appreciation of Dance (3-2) (Women)** A continuation of Physical Education 213C.

## Physics

Students majoring in physics are encouraged to take Mathematics 113A and Mathematics 113B in summer school so that they may enroll in Mathematics 213 in the Fall semester thereby eliminating the need for concurrent enrollment in Mathematics 213 and Physics 124A in the Spring semester. Students with a strong background in mathematics may be able to omit these courses (see the section on Mathematics and Engineering in this catalogue).

**Physics 113 — Physics Problems (3-0)** The use of the slide rule, preparation and interpretation of graphical data. Problems from physics and engineering are used as exercises. Required of students in Electronics, Drafting, and Petroleum Technology.

**Physics 114B — General Physics (3-3)** A course for premedical students, majors in pharmacy and architecture, and other students who need a two-semester technical course in physics but who do not intend to take additional courses in physics.

Mechanics, heat, and sound.

**Physics 124B — General Physics (3-3)** A continuation of Physics 114B.

Electricity and magnetism, Light, atomic and nuclear physics.

Prerequisite: Physics 114B

**Physics 124A — Mechanics (3-3)** A course for students who intend to major in physics, chemistry, or mathematics.

Prerequisite: Credit or registration in Mathematics 213.

**Physics 214A\* — Advanced Physics (3-3)** Heat, Wave-motion, and optics.

Prerequisite: Physics 124A, or Engineering 213, and credit or registration for Mathematics 223A.

**Physics 224A\* — Advanced Physics (3-3)** Electricity and magnetism.

Prerequisite: Physics 124A or Engineering 213 and credit or registration for Mathematics 223A.

## Psychology

**Psychology 111 — Freshman Orientation.** Freshman Orientation is a course designed to help students bridge the gap between high school and college. Library usage, study habits, good attitudes, and budgeting of time are taught. The interpretation of standardized tests and vocational counseling are included in the course. Required of all beginning students unless excused by the Academic Vice President.

**Psychology 113A — Psychology of Learning (3-0)** Fundamental mental and psychological principles underlying motivation, behavior, individual difference, and the learning processes.

The student may not count both Education 113 and Psychology 113A for credit.

**Psychology 111A — Psychology of Learning (1-0)** This is the first one-third of Psychology 113A offered on a one semester hour basis in the evening college.

**Psychology 111B — Psychology of Learning (1-0)** This is the second one-third of Psychology 113A offered on a one semester hour basis in the evening college.

**Psychology 111C — Psychology of Learning (1-0)** This is the final one-third of Psychology 113A offered on a one semester hour basis in the evening college.

**Psychology 213 — Introductory Psychology (3-0)** A study of the basic principles of psychology, bearing on individual differences, intelligence, the development of personality, growth, motivation, drives, emotions and learning.

Prerequisite: Sophomore standing.

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\* Physics 214A - 224A are designed to meet the second year physics requirements of students in engineering, chemistry or mathematics.

**Psychology 223 — Applied Psychology (3-0)** This course deals with the application of psychological facts and principles to problems and activities of life and work.

**Psychology 223A — Child Growth and Development (3-0)** How children grow and develop, the stages in the process, and the factors which influence growth and development are considered.

## Sociology and Anthropology

**Sociology 213 — Introduction to Sociology (3-0)** Introduction to the study of society. The community and its structure; the ecological approach to human relationships; elements and processes of special interaction; social change; society and the person.

Prerequisite: Sophomore standing.

**Sociology 223 — Social Problems (3-0)** The study and analysis of the major social problems of modern society.

Prerequisite: Sophomore standing.

**Anthropology 213 — Social Anthropology (3-0)** A consideration of various forms of social institutions, such as the family, clan, kin groups, community, sodalities, religion, and government, found over the world and exemplified by such people as the Apache and Hopi Indians, Australians, Samoans and Hottentots. Various schools of Social Anthropology theory are summarized.

**Sociology 223A — Industrial Sociology (3-0)** Principles of work relations in jobs, emphasis on social relations of groups and occupations. Rise, scope, and major problems of industrial sociology. Social adjustment of the workers and social organization of work plant as integral parts of society.

**Sociology 221A — Industrial Sociology (1-0)** This is the first one-third of Sociology 221 offered on a one semester hour basis.

**Sociology 221B — Industrial Sociology (1-0)** This is the second one-third of Sociology 221 offered on a one semester hour basis.

**Sociology 221C — Industrial Sociology (1-0)** This is the third one-third of Sociology 221 offered on a one semester hour basis.

**Anthropology 213A — Introduction to Anthropology (3-0)** Prin-

ciples of physical and cultural anthropology; analysis of the cultures of prehistoric and existing preliterate people; impact of modern western culture on preliterate societies.

**Anthropology 211A — Introduction to Anthropology (1-0)** This is the first one-third of Anthropology 213A offered on a one semester hour basis.

**Anthropology 211B — Introduction to Anthropology (1-0)** This is the second one-third of Anthropology 213A.

**Anthropology 211C — Introduction to Anthropology (1-0)** This is the final one-third of Anthropology 213A.

**Anthropology 223 — Cultural Anthropology (3-0)** A comparative study of culture and social organization among primitive or preliterate societies. Emphasis upon marriage, property, religion, magic and tribal control. Attention is also given to the significance of the study of primitive cultures for an understanding of urban industrial civilizations.

## Speech and Drama

**Speech 111 — Parliamentary Procedure (1-0)** A course covering correct procedure in the forming of an organization and how to conduct meetings properly.

**Speech 113 — Public Speaking (3-0)** Practice in platform delivery; planning, organizing and delivering general platform speeches. Principles and types of speeches involved in the areas of platform speaking, rhetoric and public address. Speech 113 and Speech 223A cannot both be counted for credit.

**Speech 113A — Fundamentals of Speech (3-0)** Fundamental principles of voice development, variety in expression and interpretation; use of visual action in oral communication; planning, organizing and delivering general platform speeches and readings.

**Speech 113B — Speech for Prospective Teachers (3-0)** Improvement in the prospective classroom teacher's self-command of the basic requirements of good speech; understanding the practical application of speech experience in guiding and promoting the learning of students. Speech 113A and Speech 113B cannot both be counted.

**Speech 113C — Voice, Diction, and Phonetics (3-0)** The basic principles of diction, including the physiological description and

visual notation of speech sounds; the basic principles of voice development and interpretation; intensive practical application through classroom exercises and special projects to meet individual vocal needs and professional objectives. Speech 113A and Speech 113C cannot both be counted.

**Speech 123A — Oral Interpretation (3-0)** Analysis of thought; development of imagination; oral presentation of literary forms; individual problems in interpretative reading. Prerequisite: 113A or consent of the instructor.

**Speech 123B — Fundamentals of Acting (2-2)** Theory and practice in bodily control, voice, pantomime, interpretation, characterization, and stage technique. Analysis and study of specific roles, principles of group movement, varied projects in group acting, application of principles in departmental productions.

Prerequisite: Speech 113A. Offered in even numbered years.

**Speech 123C — Basic Theatre Practice (3-2)** Study and practice in the visual arts of the theatre. Includes an introduction to the following: stagecraft, scene design, lighting, costume design and makeup. Three (3) hours lecture per week, and two (2) hours laboratory per week. Additional work on technical crews to provide practical experience.

**Speech 123D — Introduction to Radio and Television Communication (2-4)** A study of the principles of radio and television speaking, including the preparation of commercials, news and program continuity. History, development and regulation of the broadcasting industry as a mass medium and social force. Practical experience in performance on the college radio station. Two lectures and four laboratory hours per week.

Prerequisite: Speech 113A or consent of instructor. Offered in odd numbered years.

**Speech 213A — Survey of the Theatre (3-2)** An introductory study of the history, art and aesthetics of drama, including an elementary consideration of plays and playwriting; the techniques and styles of acting and directing; present day production techniques and theaters.

**Speech 223A — Business and Professional Speaking (3-0)** Special types and techniques of speeches most common to business and professional people; theory and practice in business speech situations, personal conferences, oral reports, sales talks and occasional speeches.

Prerequisite: Sophomore standing, except by permission of the Academic Vice-President.

Speech 113 and Speech 223A cannot both be counted for credit.

**Speech 223B — Introduction to Speech Correction and Audiology (3-0)** An introduction to the study of disorders of speech and hearing; types of disorders, causes, diagnosis and therapy methods used.

Prerequisites: Sophomore standing.

## Surveying

**Surveying 113 — Introduction to Surveying (3-0)** Definitions, kinds, and classes; history; dendrology; units of measurements; precision and errors; slide rule; applied trigonometry and logarithms; azimuths and bearings; notekeeping lettering; data tabulations and survey sketch essentials. Must be taken concurrently with Surveying 113A.

**Surveying 113A — Surveying Measurements Practice (2-5)** Use, care and adjustment of instruments; chaining and pacing; sighting and signaling; compass and declination; reading graduations and vernier settings; measuring horizontal and vertical angles; first field exercises in leveling and traversing.

**Surveying 123 — Land Surveying (3-0)** History of public land surveys; subdivisions of land; computation of land areas by D.M.D.'s and coordinates; plotting and recording tracts of land; deed descriptions and interpretations; legal authorities and liabilities of a surveyor; and use of calculator in land area computations. Must be taken concurrently with Surveying 123A.

**Surveying 123A — Land Surveying (2-5)** Marking corners and establishing boundaries; determining latitudes, departures and land areas; metes and bounds surveys; system of plane coordinates; meandering and irregular boundaries; and resurveys and restoration of lost corners.

**Surveying 213 — Topographic and Construction Surveying (3-0)** Principles of field astronomy; topographic mapping; contouring; triangulation; building site surveying; construction staking and photogrammetry. Must be taken concurrently with Surveying 213A.

**Surveying 213A — Field Mapping Practice (2-5)** Field methods of topographic mapping to include transit method and plane

table method; plotting and tracing contour lines; completing topographic map data and laying out of building sites.

**Surveying 223 — Route Surveying (3-0)** Reconnaissance; preliminary and location surveys; photogrammetry; plan and profile sheets; grades and crossections; earthwork estimates; right-of-way documents; and computations of horizontal and vertical curves. Must be taken concurrently with Surveying 223A.

**Surveying 223A — Route Surveying Practices (2-5)** Centerline traverses; centerline and other R. O. W. levels; crossectioning; route topographic mapping; right angle locations; construction stake locating, and the laying out of horizontal and vertical curves.

## Technical Illustration

**Technical Illustration 113A — Basic Graphics (2-4)** A course designed to cover the basic requirements of illustration drawing. Including orthographic, isometric, oblique views, and instrument drawings.

**Technical Illustration 123 — Design and Production (2-4)** A basic, well-disciplined, practical background in using the most suitable materials and equipment. Stresses versatility in using all media acceptable in technical illustrating.

**Technical Illustration 123A — Introduction to Technical Publication Illustration (2-4)** Production of practical, attractive, original, effective, and aesthetically pleasing design in all illustrating media, with emphasis on lettering, typography, and practicality of reproduction.

**Technical Illustration 213 — Illustration for Technical Reproduction (2-4)** Execution of various problems typical of those which confront the illustrator, with emphasis on subject analysis, research, drawing composition, and preparation of the finished piece. From concept to completion, the student employs creative organization of pictorial material at a professional level.

**Technical Illustration 213A — Advanced Technical Illustration — Theory I (2-4)** Based on the exacting requirements of the armed forces and industry. Preparation and rendering of aircraft, automotive, and machine parts in various media from blueprints for operation and maintenance manuals.

**Technical Illustration 223 — Technical Illustration and Reproduction Techniques (2-4)** Techniques and methods of preparing illustrations and printed material for photography and offset press reproduction.

**Technical Illustration 223A — Advanced Technical Illustration — Theory II (2-4)** Emphasis on rendering and reproduction suitability with air brush, photo retouching, and technical manual publication.

## THE TECHNICAL AND INDUSTRIAL DEPARTMENT PROGRAMS

Tyler Junior College technical courses are pre-employment training courses which fit the student into the technical, trade and industrial world.

The program is divided into Technical Institute courses, and Trade Extension classes.

**Day Courses.** Courses offered in the day division, technical in nature, are on the college level and are operated on the semester hour plan. These courses are one or two years in length and are divided into semesters. Upon completion of appropriate units, the student is given credit in terms of semester hours.

Admission to day technological courses is based upon graduation from an accredited high school or upon satisfactory completion of an entrance examination.

**Trade Extension Classes.** Tyler Junior College, in cooperation with the Texas Education Agency, offers "trade extension" classes. Instruction is given to trade and industrial workers in courses that are designed to teach the workers more about their jobs, and thereby increase their productivity and assure more opportunities for advancement.

Any worker may enter a trade extension class if the instruction given is such as will help him in his daily work or fit him for promotion to a better job in the same occupation.

All workers are eligible for trade extension classes who are over sixteen years of age and who are employed in those trades or industrial pursuit for which supplementary instruction can be given.

**Tuition.** Technical Department Tuition.

Tyler Junior College District Residents, \$60.00 per semester for a whole or part of a program.

Texas non-district residents, \$90.00 per semester for a whole or part of a program.

Non-residents of Texas, \$200.00 per semester for a whole or part of a program.

The Electronic Data Processing Program has a \$15.00 per semester rental fee in addition to the tuition.

## Aeronautics

### CAREER PILOT TECHNOLOGY

The Career Pilot program objective is to provide general aviation pilot training in a college level educational program in both aviation-related and academic fields. Upon successful completion of the curriculum a high level of professional competence leads to the Federal Aviation Administration Commercial Pilot Certificate with instrument rating.

The student pays the regular tuition rate for liberal arts, science, and flight theory courses. In addition he pays for his flight training as follows:

An hourly fee will be charged for the flight training. The amount of hourly fee will be based upon the type of aircraft and equipment used. Each different Federal Aviation license has different requirements on the number of hours of flight and different equipment to be used in training; therefore, the cost to obtain the different licenses will vary. The cost of flight training is listed by license and by options that a student may elect to take in obtaining licenses.

#### A. PRIVATE PILOT LICENSE — ONE SEMESTER COURSE

Cessna 150 Aircraft

Minimum:

20 hours Dual @ \$18.00	\$360.00
15 hours Solo @ \$13.00	195.00
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	\$555.00

Maximum:

20 hours Dual @ \$18.00	\$360.00
20 hours Solo @ \$13.00	260.00
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	\$620.00

**B. Commercial Pilot — Two Semester Course**

Two different programs are outlined — the difference being in the type of aircraft used by the student. The cost for the Commercial Pilot license is listed by the entire cost and also by the total cost per semester. The total indicated for each is the maximum.

**OPTION I**

Dual Cessna	40 hours @	\$18.00	\$720.00
Dual Cessna Instrument	5 hours @	23.00	115.00
Dual Beech Musketeer	5 hours @	23.50	117.50
Solo Cessna	90 hours @	13.00	170.00
Solo Beech Musketeer	5 hours @	18.50	92.50
			_____
	= Maximum 145 hours		\$2215.00
	Amount per semester		\$1107.00

**OPTION II**

Dual Cessna	20 hours @	\$18.00	\$360.00
Dual Beechcraft	25 hours @	23.50	587.50
Dual Beechcraft Instrument	5 hours @	28.50	142.50
Solo Beechcraft	50 hours @	18.50	925.00
Solo Cessna	45 hours @	13.00	585.00
			_____
	Maximum 145 hours		\$2600.00
	Amount per semester		\$1300.00

**C. Instrument Rating — One Semester**

Maximum:

Dual Beechcraft	35 hours @	\$28.50	\$997.50
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**D. Flight Instructors License — One Semester****OPTION I**

Dual Cessna 150	30 hours @	\$18.00	\$540.00
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**OPTION II**

Beech Musketeer	30 hours @	\$23.50	\$705.00
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**E. Multi-Engine Pilot License — One Semester**

10 hours @ \$60.00			\$600.00
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The above is based upon maximum hours. The cost is subject to change should the Federal Aviation Administration change the requirements for the license.

**CAREER PILOT TECHNOLOGY CURRICULUM****First Year — First Semester**

Psychology 111 — Freshman Orientation  
English 113 — Composition and Rhetoric  
Mathematics 113E — Applied Mathematics  
Aeronautics 113 — Flight Theory I  
Aeronautics 113A — Aerophysics  
Aeronautics 113B — Basic Flight  
Physical Education 111 — Physical Training

**First Year — Second Semester**

English 123 — Composition and Rhetoric  
History 213 — United States  
Aeronautics 123 — Flight Theory I  
Aeronautics 123A — Aerodynamics  
Aeronautics 123B — Flight - Intermediate I  
Meteorology 113 — Meteorology  
Physical Education 121 — Physical Training

**Summer School — First Term**

History 223 — United States  
Mathematics 113 — College Algebra

**Summer School — Second Term**

Government 213 — American Government  
Mathematics 113B — Trigonometry

**Second Year — First Semester**

English 213 — English Literature  
Government 223 — National and State Government  
Aeronautics 213 — Flight Theory II  
Aeronautics 213A — Radio Aids & Communication  
Aeronautics 213B — Flight - Intermediate II  
Aeronautics 213C — Propulsion Systems

**Second Year — Second Semester**

English 223 — English Literature  
Psychology 223 — Applied Psychology  
Aeronautics 223 — Instrument Theory  
Aeronautics 223A — Flight - Advanced I  
Elective — (Three semester hours)  
Elective — Flight - Advanced II

## Air Conditioning and Refrigeration

The curriculum is designed to prepare the student to assist in planning, installing, operating and maintaining air conditioning equipment. The required technical information is presented and related skills are developed which will enable the graduate to function efficiently when working with engineers, system designers, skilled craftsmen, salesmen, and others in the field.

### AIR CONDITIONING AND REFRIGERATION CURRICULUM

#### First Year — First Semester

- English 113 — Composition and Rhetoric
- Mathematics 113\* — College Algebra
- Drafting 113A — Engineering Drawing
- Air Conditioning 113 — Fundamentals of Refrigeration
- Electronics 113A — Power Distribution
- Psychology 111
- Physical Education 111

#### First Year — Second Semester

- English 223B — Technical Report Writing
- Mathematics 113B\* — Trigonometry
- Air Conditioning 123 — Refrigeration Machines
- Electronics 123A — Automatic Controls
- Speech 223A — Business and Professional Speaking
- Physical Education 121

#### Second Year — First Semester

- Government 213 — American Government
- Physics 113 — Elementary Physics
- Air Conditioning 213 — Commercial Refrigeration Systems
- Air Conditioning 213A — Heating
- Electronics 213 — Vacuum Tubes and Semiconductors

#### Second Year — Second Semester

- Government 223 — National and State Government
- Drafting 223A — Manufacturing Design, Materials and Processing
- Air Conditioning 223 — Air Conditioning Principles
- Air Conditioning 223A — Related Problems - Systems Design
- Psychology 223 — Applied Psychology

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\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

## Dental Hygiene

This program provides a two-year course of theoretical and professional training at the college level, leading to the degree of Associate-in-Science in Dental Hygiene and to the State and National Board examinations for registry.

The student engages in occupational training to perform ancillary clinical services contributing to the maintenance of good oral health. Skills are developed to provide the dentist with the aid which will allow him more time for the treatment of patients. The student will develop a sense of personal responsibility to the dental profession and society.

### DENTAL HYGIENE CURRICULUM

#### First Year — First Semester

- English 113 — Composition and Rhetoric
- Biology 113B — Anatomy and Physiology
- Chemistry 113 — Introduction to Chemistry
- Dental Hygiene 114 — Oral Hygiene
- Dental Hygiene 111 — Medical and Dental Emergencies
- Dental Hygiene 113 — Oral Anatomy and Physiology
- Dental Hygiene 111A — Dental Specialities
- Psychology 111 — Freshman Orientation
- Physical Education 111A — Physical Training for College Women

#### First Year — Second Semester

- English 123 — Composition and Rhetoric
- Biology 123B — Anatomy and Physiology
- Chemistry 123 — Introduction to Chemistry
- Dental Hygiene 122 — Radiology Theory
- Dental Hygiene 124 — Dental Hygiene Technique & Clinic
- Dental Hygiene 123 — General & Oral Histology
- Physical Education 121A — Physical Training for College Women

#### Second Year — First Semester

- Psychology 213 — Applied Psychology
- Government 223 — State Government
- Dental Hygiene 211 — Dental Material
- Dental Hygiene 212 — General and Oral Pathology
- Dental Hygiene 211A — Peridontia
- Dental Hygiene 214 — Dental Hygiene Clinical Practice I
- Biology 114A — Microbiology

**Second Year — Second Semester**

Home Economics 123C — Nutrition  
Speech 113B — Speech for Classroom Teachers  
Dental Hygiene 221A — Personal and General Community Health  
Dental Hygiene 222A — Dental Health Education  
Dental Hygiene 221B — Pharmacology  
Dental Hygiene 221C — Children Dentistry  
Dental Hygiene 222B — Ethic and Jurisprudence, Office Management  
Dental Hygiene 224 — Dental Hygiene Clinic II

### **Drafting Technology**

The curriculum in Drafting is designed to qualify the student for professional work in the many areas of drafting. Upon completion of the required two-year plan, he receives an Associate-in-Applied Engineering Degree.

#### **DRAFTING CURRICULUM**

**First Year — First Semester**

Drafting 113A — Engineering Drawing  
Drafting 113B — Freehand Drawing  
English 113 — Composition and Rhetoric  
Mathematics 113E — Applied Mathematics I \*  
History 213 — History of the United States  
Psychology 111  
Physical Education 111

**First Year — Second Semester**

Drafting 213D — Descriptive Geometry  
Drafting 123B — Mechanical Drawing  
English 223B — Technical Report Writing  
Mathematics 123E — Applied Mathematics II \*  
History 223 — History of the United States  
Physical Education 121

**Second Year — First Semester**

Drafting 213A — Machine Drawing  
Drafting 123A — Architectural Drawing  
Government 213 — American Government  
Mathematics 113B — Trigonometry \*  
Physics 113 — Elementary Physics

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\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

**Second Year — Second Semester**

Drafting 223B — Map Drafting  
Drafting 223C — Plane Surveying  
Government 223 — American Government  
Speech 223A — Business and Professional Speaking  
Electronics 113 — Basic Electronics

## Electronic Data Processing

The College offers one and two year data processing programs.

The nine months program fits the student to qualify for employment in the field of automatic data processing. The curriculum centers around the operation and control of data processing machines, including control panel wiring and programming of machines other than the electronic digital computer.

A certificate of proficiency is granted upon successful completion of the course.

The two year program leads to the Associate-in-Business Administration and emphasizes mastery of the electronic digital computer.

A \$15.00 per semester rental fee is charged in this program.

## ONE-YEAR PROGRAM

**First Semester**

English 113 — Composition and Rhetoric  
Business Administration 113B — Introduction to Business  
Business Administration 113A — Accounting  
Electronic Data Processing 113  
Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics  
Physical Education 111 — Physical Training  
Psychology 111

**Second Semester**

English 223B — Technical Report Writing  
Business Administration 123A — Accounting  
Electronic Data Processing 123  
Business Administration 113M — Office Machines  
Speech 113A — Fundamentals of Speech  
Physical Education 121 — Physical Training

**ASSOCIATE IN BUSINESS ADMINISTRATION PLAN****First Year — First Semester**

English 113 — Composition and Rhetoric  
Business Administration 113B — Introduction to Business  
Business Administration 113A — Accounting  
Electronic Data Processing 113  
Business Administration 113T — Typewriting or Elective  
Physical Education 111 — Physical Training  
Psychology 111

**First Year — Second Semester**

English 223B — Technical Report Writing  
Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics  
Business Administration 123A — Accounting  
Electronic Data Processing 123  
Business Administration 123T — Typewriting or Elective  
Physical Education 121

**Second Year — First Semester**

Electronic Data Processing 213 — Computer  
Economics 213 — Principles of Economics  
History 213 — American History  
Government 213 — American Government  
Business Administration 113M — Office Machines

**Second Year — Second Semester**

Electronic Data Processing 223 — Computer  
History 223 — American History  
Economics 223 — Economic Problems  
Government 223 — National and State Government  
Speech 223A — Business and Professional Speaking

**Electronics Technology**

The Electronics program, completed in two college years, prepares the student for entry into the Electronics Industry as a specialist technician, or as an Engineer Assistant, to work in the field of research and development, or to service and maintain communication equipment. He is qualified to do calibration and adjustment of automatic control equipment.

**ELECTRONICS CURRICULUM****First Year — First Semester**

Electronics 113 — DC and AC Theory and Circuits  
Electronics 113A — Power Distribution  
Electronics 113L — Basic Electricity Laboratory  
English 113 — Composition and Rhetoric  
Mathematics 113E — Applied Mathematics I \*  
History 213 — History of the United States  
Psychology 111  
Physical Education 111

**First Year — Second Semester**

Electronics 123A — Automatic Controls  
Electronics 123 — Industrial Electronics  
Electronics 123L — Basic Electronics Laboratory  
English 223B — Technical Report Writing  
Mathematics 123E — Applied Mathematics II \*  
History 223 — History of the United States  
Physical Education 121

**Second Year — First Semester**

Electronics 213 — Vacuum Tubes and Semi-Conductors  
Electronics 213L — Industrial Electronic Laboratory  
Engineering 112 — Engineering Drawing  
Physics 113 — Elementary Physics  
Government 213 — American Government

**Second Year — Second Semester**

Electronics 223 — Industrial Instrumentation Fundamentals  
Electronics 223L — Industrial Instrumentation Laboratory  
Mathematics 113B — Trigonometry \*  
Speech 223A — Business and Professional Speaking  
Government 223 — National and State Government

**Law Enforcement Technology**

This course provides a survey of police problems, crime trends and statistics, organization and jurisdiction of local, state and federal enforcement agencies. Surveys of professional opportunities and personal qualifications are studied. The course is a basic orientation designed to provide the student with a composite evaluation of the European and American police systems. The student is introduced to a general history of police

\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

systems which serves as a frame of reference in analyzing trends in the modern police service.

### LAW ENFORCEMENT CURRICULUM

#### First Year — First Semester

- English 113 — Composition and Rhetoric
- History 213 — History of the United States
- Mathematics 113E — Applied Mathematics
- Law Enforcement 113 — Introduction to Law Enforcement
- Law Enforcement 113A — Police Administration
- Psychology 111 — Freshman Orientation
- Physical Education 111 — Physical Training

#### First Year — Second Semester

- History 223 — History of the United States
- English 223B — Technical Report Writing
- Speech 223A — Business and Professional Speaking
- Law Enforcement 123 — Juvenile Procedures
- Law Enforcement 123A — Patrol Operation 
- Physical Education 121 — Physical Training

#### Second Year — First Semester

- Psychology 213 — Introduction to Psychology
- Government 213 — American Government
- Sociology 213 — Introduction to Sociology
- Law Enforcement 213 — Criminal Law 
- Law Enforcement 213A — Criminal Evidence and Investigation
- Physical Education 211 — Physical Training

#### Second Year — Second Semester

- Government 223 — American Government
- Physics 113 — Physics Problems
- Sociology 223 — Social Problems
- Law Enforcement 223 — Traffic Management and Planning
- Law Enforcement 223A — Police Administration II
- Physical Education 221 — Physical Training

### Mid-Management

Mid-Management is an area of study concerned with a two-year comprehensive program in the field of distribution. Classroom instruction in marketing, salesmanship, advertising and sales promotion, retail merchandising, business and industrial psychology, etc., is supplemented with on-the-job training in an approved distributive occupation.

A shortage of trained people to fill the middle management positions in business creates great opportunity for graduates in retail stores, wholesale establishments, motels, hotels, financial institutions, insurance offices, supermarkets, transportation and many others.

### MID-MANAGEMENT CURRICULUM

#### **First Year — First Semester**

- English 113 — Composition and Rhetoric
- Mid-Management 113 — Salesmanship
- Business Administration 113C — Business Mathematics
- Business Administration 113B — Introduction to Business
- Mid-Management 113A\* — Work Experience and Seminar
- Physical Education 111 — Physical Training for College Men
- Psychology 111 — Freshman Orientation

#### **First Year — Second Semester**

- Business Administration 113M — Office Machines
- Mid-Management 123 — Principles of Marketing
- Business Administration 213F — Business and Industrial Psychology
- Business Administration 113C — Business Correspondence
- Mid-Management 123A\* — Work Experience and Seminar
- Physical Education 121 — Physical Training for College Men

#### **Second Year — First Semester**

- Government 213 — American Government
- Business Administration 214 — Principles of Accounting
- Business Administration 213N — Salesmanship
- Mid-Management 213 — Advertising and Sales Promotion
- Mid-Management 213A\* — Work Experience and Seminar

#### **Second Year — Second Semester**

- Government 223 — National and State Government
- Business Administration 224 — Principles of Accounting
- Economics 223 — Economic Problems
- Mid-Management 223 — Retail Merchandising
- Mid-Management 223A\* — Work Experience and Seminar

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\*Fifteen hours of supervised work experience per week.

## Petroleum Technology

**Petroleum Technology.** The petroleum technology curriculum is established with the advice and co-operation of employers and workers in the oil fields to provide preliminary training for workers in various aspects of petroleum development and production. The oil industry requires employees with training in locating, drilling and maintaining wells, and in handling and refining petroleum products.

While scientific background and related information is included in the technology course, major emphasis is upon operation in the oil field, with opportunity for field trips and for employment.

Petroleum technology majors have available training in four broad areas: exploration, development, marketing, and construction and maintenance. The two-year program listed below is the pattern suggested for students who plan to enter the petroleum industry in the field of exploration and development.

### PETROLEUM TECHNOLOGY CURRICULUM

#### First Year — First Semester

- Petroleum Technology 113 — Petroleum Development
- Petroleum Technology 112A — Rotary Drilling Fluids
- Petroleum Technology 112B — Drilling Equipment Field Lab
- English 113 — Composition and Rhetoric
- Mathematics 113E — Applied Mathematics I \*
- History 213 — History of the United States
- Psychology 111
- Physical Education 111

#### First Year — Second Semester

- Petroleum Technology 121 — Oil Field Records
- Petroleum Technology 123 — Production Methods
- Drafting 111 — Blueprint Reading
- Petroleum Technology 122A — Production Equipment Field Lab
- English 223B — Technical Report Writing ✓
- Mathematics 123E — Applied Mathematics II \* ✓
- History 223 — History of the United States
- Physical Education 121

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\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

**Second Year — First Semester**

Petroleum Technology 213 — Introduction to Petroleum Industry

Petroleum Technology 212A — Well Logging Methods

Petroleum Technology 213A — Petroleum Laboratory Methods

Mathematics 113B — Trigonometry \*

Electronics 113 — Basic Electronics

Government 213 — American Government

**Second Year — Second Semester**

Petroleum Technology 222 — Geophysical Methods

Petroleum Technology 222B — Planetable Surveying for Geophysics

Petroleum Technology 222A — Natural Gas Production

Petroleum Technology 222C — Hydraulics for Petroleum Technologists

Physics 113 — Elementary Physics

Drafting 223B — Map Drafting

Government 223 — American Government

## Surveying

Surveying at Tyler Junior College was initiated at the request of Land Surveyors in the East Texas area. The courses offered are designed to teach the student the basic elements of surveying theory and to afford him enough supervised practice to enable him, in two years time, to become a useful apprentice to this industry. Land Surveying as such is emphasized and includes history, dendrology, marking corners, establishing boundaries, describing land by metes and bounds, calculating land areas, and the use of the Texas Coordinate System. Other phases of surveying taught are, topographic, construction, field mapping and route surveying.

## SURVEYING CURRICULUM

**First Year — First Semester**

Surveying 113 — Introduction to Surveying

Surveying 113A — Surveying Measurements Practice

English 113 — Composition and Rhetoric

Mathematics 113E — Applied Mathematics I \*

History 213 — History of the United States

Psychology 111

Physical Education 111

**First Year — Second Semester**

Surveying 123 — Land Surveying  
Surveying 123A — Land Surveying  
English 223B — Technical Report Writing  
Mathematics 123E — Applied Mathematics II \*  
History 223 — History of the United States  
Physical Education 121

**Second Year — First Semester**

Surveying 213 — Topographic and Construction Surveying  
Surveying 213A — Field Mapping Practice  
Mathematics 113B — Trigonometry  
Government 213 — American Government  
Elective — 3 semester hours

**Second Year — Second Semester**

Surveying 223 — Route Surveying  
Surveying 223A — Route Surveying Practices  
Drafting 223B — Map Drafting  
Government 223 — National and State Government  
Speech 223A — Business and Professional Speaking

## Technical Illustration

A two year post high school technical program designed to meet the needs of the student desiring to enter the field of technical illustration. The course of study is designed to give the student a basic knowledge of drawing and illustrating, equipment and medias, preparations for reproduction, and reproduction procedures used in industry.

## TECHNICAL ILLUSTRATION CURRICULUM

**First Semester**

Drafting 113B — Freehand Drawing  
Technical Illustration 113 — Basic Graphics  
English 113 — Composition and Rhetoric  
Mathematics 113\* — College Algebra  
Photography 123 — Basic Photography  
Psychology 111 — Freshman Orientation  
Physical Education 111

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\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

**Second Semester**

Technical Illustration 123 — Design and Production  
Technical Illustration 123A — Introduction to Technical Publication Illustration  
Mathematics 113B\* — Trigonometry  
Drafting 223E — Electronic Drafting  
Speech 223A — Business and Professional Speaking  
Physical Education 121

**Third Semester**

Technical Illustration 213 — Illustration for Technical Reproduction  
Technical Illustration 213A — Advanced Technical Illustration — Theory I  
Government 213 — American Government  
History 213 — History of United States  
Physics 113 — Physics Problems

**Fourth Semester**

Technical Illustration 223 — Technical Illustration and Reproduction  
Technical Illustration 223A — Advanced Technical Illustration — Theory II  
Government 223 — National and State Government  
History 223 — History of United States  
English 223B — Technical Report Writing

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\* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

## DISTRIBUTIVE EDUCATION

In accordance with its stated objectives, Tyler Junior College co-operates with business and industrial concerns of the area by providing special personnel training programs. Specialized non-credit courses in Distributive Education are organized whenever there is a request by a sufficient number of persons for such a class.

The courses are taught in either the regular day session or in the Evening Division to suit the needs of the students.







